



2024

宏觀微電子
永續報告書
Sustainability Report

Content

MESSAGE FROM THE CHAIRMAN	3
ABOUT THE REPORT	4
DISCLOSURE PERIOD AND SCOPE.....	4
EXTERNAL ASSURANCE.....	4
EDITING GUIDELINES.....	4
REPORT PUBLICATION.....	4
CONTACT METHOD.....	4
1 SUSTAINABLE MANAGEMENT	5
1.1 ABOUT RAFAEL.....	5
1.2 SUSTAINABLE GOVERNANCE AND COMMITMENT.....	9
1.3 STAKEHOLDER ENGAGEMENT	10
1.4 IDENTIFICATION OF MATERIAL TOPICS	12
2 COMMITMENT TO ETHICAL CORPORATE MANAGEMENT	17
2.1 BUSINESS PHILOSOPHY.....	17
2.2 INFORMATION DISCLOSURE ON CLIMATE RISKS AND OPPORTUNITIES	28
2.3 OPERATIONAL PERFORMANCE	31
2.4 ETHICAL CORPORATE MANAGEMENT AND COMPLIANCE.....	33
3 PRODUCT AND ENVIRONMENTAL SUSTAINABILITY.....	36
3.1 MANAGEMENT GUIDELINES	36
3.2 INNOVATIVE PRODUCTS AND SERVICES.....	37
3.3 GREEN SUPPLY CHAIN.....	39
3.4 ENERGY AND EMISSIONS.....	40
3.5 WATER RESOURCE MANAGEMENT	42
3.6 USE OF RAW MATERIALS AND WASTE DISPOSAL.....	43
4 FRIENDLY WORKPLACE	44
4.1 MANAGEMENT GUIDELINES	44
4.2 TALENT RECRUITMENT AND RETENTION	45
4.3 EMPLOYEE CARE.....	51
4.4 CULTIVATION AND IMPROVEMENT OF TALENT	54
APPENDIX.....	57
APPENDIX 1: GRI STANDARDS COMPARISON TABLE.....	57
APPENDIX 2: SASB COMPARISON TABLE.....	63
APPENDIX 3: COMPARISON TABLE OF CLIMATE-RELATED INFORMATION FOR TWSE/TPEX LISTED COMPANIES.....	65

Message from the Chairman

In 2024, the global economy encountered multiple challenges, driven by unfavorable factors such as inflationary pressures, rising interest rates, and geopolitical risks. The policy changes made by the new U.S. President, inconsistency in monetary policies of central banks of different countries, and geopolitical crises such as the Russo-Ukrainian War and the Middle East War become the most critical factors affecting the current situation. In this rapidly changing industry environment, the Company has actively responded to challenges and seized market growth opportunities. Consolidated operating revenue for 2024 was NT\$1,065,491 thousand, a 6.97% increase year-over-year; net profit for the current period was NT\$117,105 thousand, a 180.28% increase year-over-year.

The Company has always adhered to the spirit of ethical management and steady innovation, actively facing industry changes and sustainability challenges. In the face of the increasing global emphasis on environmental, social, and governance (ESG), we continue to strengthen corporate governance, fulfill social responsibility, promote green operations, and strive to create an inclusive and competitive workplace.

We understand that corporate sustainability must be built on a foundation of collaboration with stakeholders to achieve mutual progress. Therefore, we will continue to listen to the voices of our employees, customers, shareholders, supply chain partners, and society, and integrate sustainability into our daily operations and long-term strategies, striving to balance operational performance with social responsibility.

We are grateful to our partners for their care and support, which empower us to overcome challenges together and pursue a more resilient and sustainable future.

Chairman Cheng David



About the Report

Disclosure Period and Scope

The period of this report is from January 1 to December 31, 2024, and represents the first issuance by Rafael Microelectronics, Inc. (hereinafter referred to as "Rafael" or "the Company"). The report contains disclosures on sustainability indicators related to corporate governance, economic, social, and environmental aspects. The financial performance in this report is based on the audited financial statements, and the scope of disclosure covers the headquarters in Taiwan and its subsidiaries. The scope of non-financial performance indicators is limited to the headquarters in Taiwan; however, any chapter where the subject matter or data collection affects the information coverage will include a corresponding note.

External Assurance

The scope of this report focuses primarily on the Taiwan headquarters, including the disclosure of business projects and financial performance of other subsidiaries and investees. Any deviations from this scope will be noted in the relevant paragraph. The information disclosure period is for the 2024 fiscal year (January 1 to December 31, 2024). The sustainability report has not yet been planned for third-party external assurance, and there is no restatement of information.

Editing Guidelines

The contents and structure of this report have been prepared in accordance with the Global Reporting Initiative (GRI) Standards, referencing the Sustainability Reporting Standards published by the Global Reporting Initiative (GRI), as well as guidance from the Sustainability Accounting Standards Board (SASB), the Task Force on Climate-related Financial Disclosures (TCFD), the United Nations Sustainable Development Goals (SDGs), and the "Sustainable Development Best Practice Principles for TWSE/TPEX Listed Companies" established by the Taiwan Stock Exchange Corporation and the Taipei Exchange.

Report publication

This is the Company's first Sustainability Report, which will be published on an annual basis.

- ◆ Current Version: Published in August 2025.
- ◆ Next Version: To be published in August 2026.

Contact Method

If you have any suggestions or questions regarding this report, please feel free to contact us:

- ◆ Responsible unit for the report: Sustainable Development Promotion Team.
- ◆ Tel.: (03)550-6258
- ◆ E-mail: esg@rafaelmicro.com
- ◆ Address: 8F, No. 28, Chenggong 12th Street, Zhubei City, Hsinchu County

1 Sustainable Management

1.1 About Rafael

1.1.1 Company Profile

The Company was founded in November 2006 by a group of RF experts with profound industry experience, focusing on the design and R&D of wireless RF chips. Guided by the belief in “advancing technology through innovation and enhancing quality of life with technology,” the Company applies advanced RF technology to provide high-performance chip solutions for a wide range of global applications.



The name “Rafael Micro” was inspired by Raphael Sanzio da Urbino, one of the three great masters of the Renaissance, and incorporates the acronym of the Company’s core technology, Radio Frequency (RF), symbolizing the fusion of artistic creativity and cutting-edge technology. Rafael represents the pinnacle of art and creativity, inspiring the Company to pursue technological innovation while continuously leading the development of radio frequency application technology.

The Company upholds the highest standards of product quality and reliability, with all RF chips protected by comprehensive proprietary patents and intellectual property rights. The Company’s lineup of silicon tuner products, by combining proprietary tuning technology, filtering technology, and broadband radio frequency (RF) circuit design, creates an impregnable technology barrier and competitive advantage. The Company is the only Taiwanese IC design manufacturer capable of providing high-end RF chips for TVs and set-top boxes (STBs). With product shipments consistently ranking among the top three globally, we have successfully entered the supply chains of leading international brands in Europe, the United States, China, and Japan, showcasing our exceptional technical expertise and global market influence.

The Company’s Exterior



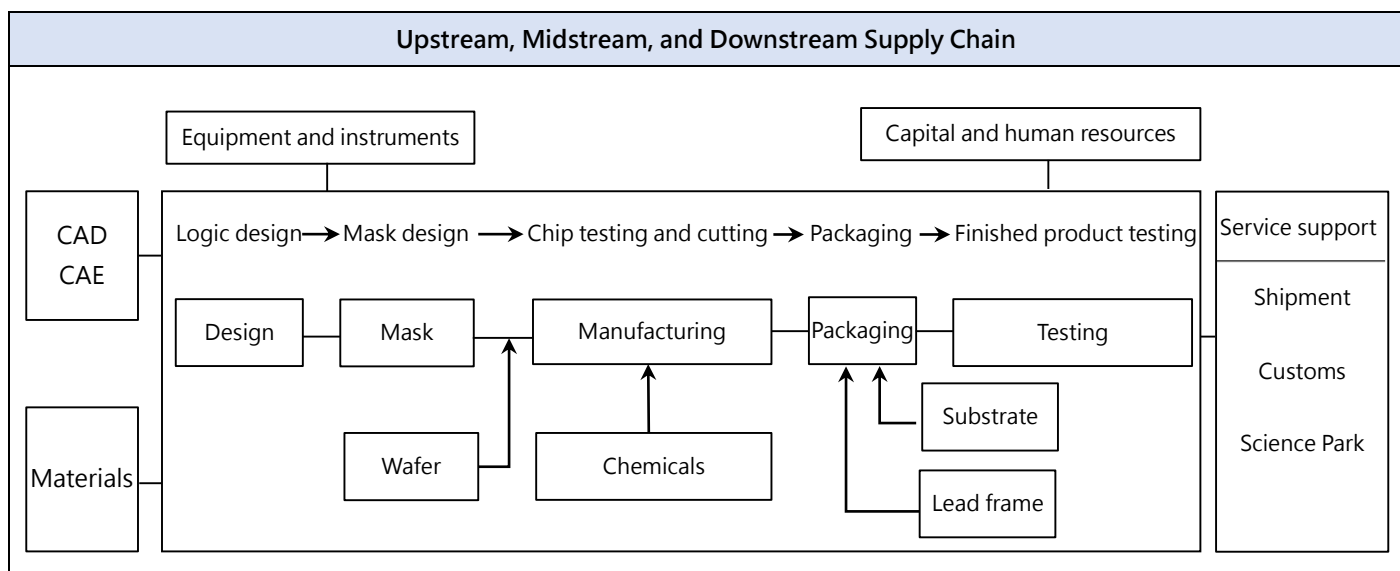
- ◆ The Company's Chief Corporate Governance Officer: Manager Su Chin-Ya
- ◆ Address: 8F, No. 28, Chenggong 12th Street, Zhubei City, Hsinchu County
- ◆ Tel.: (03)550-6258
- ◆ Email: rafael.ir@rafaelmicro.com

The Company' s Corporate Website	Corporate Website - Corporate Governance Section
	

Shareholding Structure Table		
Deadline: March 29, 2025		
Shareholder	Number of shares held	Shareholding ratio
Financial institutions	0	0%
Other organizations	11,926,787	39%
Foreign institutions and foreigners	1,029,427	3%
Individuals	18,051,786	58%

1.1.2 Products and Services

The semiconductor industry in Taiwan has developed a complete ecosystem. From IC design, chip materials, silicon wafers, and mask production to IC manufacturing, packaging, lead frames, testing, and peripheral support, each stage is supported by numerous specialized manufacturers. This has fostered a well-structured vertical division of labor and a clear trend toward specialization, resulting in a comprehensive industry system across the upstream, midstream, and downstream segments. The Company is mainly engaged in IC design products, and the IC design industry is the upstream of the IC industry chain. The products designed are delivered to the midstream professional foundries for production, and then the downstream packaging and testing factories conduct the packaging and testing of the products. The correlation between the upstream, midstream and downstream of the semiconductor industry and the definition of the industry is as follows:



The Company is mainly engaged in the research, design, development, and sales of radio frequency integrated circuits (RF ICs). Recently, it has also continued to invest R&D resources to expand its new product lines, which include optical communication chips for data center applications under its optical fiber product line, symmetric 10G-PON driver chips for network infrastructure applications, and highly integrated dual-band, tri-mode IoT chips under its IoT product line. Product information and sales and production data are shown below:

2024			
Product classification	Chip applications	Sales area	Sales volume (thousand units)
TV/STB tuner	<ul style="list-style-type: none"> ◆ Hybrid Silicon RF Tuner IC for TVs. ◆ 4KUHD digital STB single-core tuner. (DVBC2/T2/ISDB-T/ATSC/DTMB/S2) ◆ 4KUHD digital STB double-core tuner. (DVBC2/T2/ISDB-T/ATSC) ◆ Modulator ICs. ◆ ISDB-S3 8K RF Receiver IC ° ◆ Frontend SoC IC for Digital STB ° 	Export sales	139,996
		Domestic sales	1,291
Satellite communication	<ul style="list-style-type: none"> ◆ Satellite switch IC. ◆ Single LNB, Twin LNB and Quad LNB. ◆ 4 Ch. aCSS satellite ICs. ◆ UWB satellite receiver ICs. ◆ 8 Ch. aCSS satellite ICs. 	Export sales	3,595
		Domestic sales	951
Fiber-optic communication	<ul style="list-style-type: none"> ◆ Fiber-optic to coaxial RF signal conversion ICs. ◆ Chipset for 4x 8G HDMI 2.0 AOC. ◆ Chipset for 4x 12G HDMI 2.1 AOC. ◆ Transimpedance amplifier (TIA) for satellite RF fiber-optic transmission. ◆ TIA for 10G APD/PIN ◆ 25G SR ultra-high-speed optical communication chipset ◆ 4X25G SR4 ultra-high-speed optical communication chipset 	Export sales	2,608
		Domestic sales	10

2024			
Product classification	Chip applications	Sales area	Sales volume (thousand units)
IoT Communication	<ul style="list-style-type: none"> ◆ Bluetooth 5.0 low-energy-consumption (BLE 5.0) wireless transceiver ICs. ◆ 2.4G private protocol wireless transceiver ICs. ◆ 2.4G ZigBee/BLE/private protocol, multi-protocol wireless communication SoC. ◆ 2.4G/SubG dual frequency, ZigBee/BLE/private protocol, multi-protocol wireless communication SoC 	Export sales	287
		Domestic sales	45

Annual production volume and value Major products	2022			2023			2024		
	Production capacity	Production volume	Production value	Production capacity	Production volume	Production value	Production capacity	Production volume	Production value
IC	(Note 2)	156,473	606,708	(Note 2)	99,270	414,106	(Note 2)	166,725	669,678
Total	(Note 2)	156,473	606,708	(Note 2)	99,270	414,106	(Note 2)	166,725	669,678

Note:

1. The unit for production volume and output value is thousands of units.
2. The Company' s products are wafers produced by foundries and outsourced to packaging and testing facilities for further processing.

Customer service and complaints are centrally managed by the sales department. The Company values product quality and customer service, and has established the "Customer Complaint and Return Handling Procedures" to track each complaint to resolution, ensuring customer rights are protected.

- Sales personnel receives customer complaints
- Hand over to relevant personnel for preliminary analysis to clarify the cause.
- QC personnel logs and handles customer complaints.
- The responsible personnel conducts a thorough investigation into the root cause of the anomaly and determines who is responsible.
- QC personnel convenes quality meeting to propose improvement measures (product replacement and return requests) and track follow-up items.
- Respond to the customer with the reason and solution.
- Record the case closure and archive the meeting minutes and process records.

Stakeholders	Communication Channel	Topics of Concern	Contact Person
Customer	<ul style="list-style-type: none"> ◆ Telephone and email ◆ Customer satisfaction survey ◆ Customer complaint handling channel ◆ Questionnaire responses 	<ul style="list-style-type: none"> ◆ Customer service ◆ Sustainable development strategy ◆ Integrity and ethics 	Sales email (sales@rafaelmicro.com)

1.1.3 Participation in Public Associations

The Company continues to participate in public associations to promote experience sharing and exchange with its peers. By 2024, we had participated in seven public associations and look forward to engaging with more associations in the future, further enhancing our operational capabilities and competitiveness.

Industry Associations and Other Member Associations	Membership Status
TSIA	Group membership
HDMI Licensing Administrator	Adopter
TwloTA	Member
USB Implementers Forum, Inc.	USB member
Connectivity Standards Allianc	Matter PAA Qualification and CSA Member
Thread Group, Inc.	Thread contributor member
Bluetooth	Bluetooth SIG small associate member

1.2 Sustainable Governance and Commitment

The Company's main strategies for sustainable development are as follows:

- Technology innovation: Emphasize technological innovation to achieve sustainable development, including energy-saving products and smart solutions.
- Corporate governance: Strengthen the establishment of an internal audit and internal control system, and enhance financial information transparency.
- Social responsibility: Enhance employee care and social concern, including initiatives in occupational safety, training and development, and community engagement.
- Environmental protection: Focus on reducing carbon emissions and minimizing environmental impact to fulfill our corporate environmental responsibility.

The Company complies with domestic labor laws and regulations, and supports and adheres to the principles outlined in international human rights conventions including the *Universal Declaration of Human Rights*, *Guiding Principles on Business and Human Rights*, *United Nations Global Compact*, and the International Labour Organization (ILO)'s *Declaration on Fundamental Principles and Rights at Work*. The Company strives to promote and ensure human rights protection among employees, partners, and customers.

In the future, the Company will continue to prioritize sustainable development as a core value. We will continue to improve our products and services through innovation and integration, striving to meet customer needs while minimizing our negative environmental impact.

Corporate sustainability requires a sound governance structure and principles of integrity. For this reason, we continue to optimize our corporate governance system, strengthen the functions of the Board of Directors, implement risk management, and actively promote environmental protection, social responsibility, and information transparency. Through these efforts, we aspire to become a company that contributes to society and the environment, and to work with our global partners to achieve the goal of sustainable development.

1.3 Stakeholder Engagement

The Company’s stakeholders refer to those potentially identified in the GRI Standards, including business partners, consumers, customers, employees and other workers, government agencies, local communities, non-governmental organizations (NGOs), shareholders and other investors, and suppliers, etc. Then, external experts ranked the stakeholders based on the sum of their actual negative impact, potential negative impact, actual positive impact, and potential positive impact on the Company. If the total score exceeds 13 points, it will be discussed with senior executives. Finally, six major stakeholder categories were identified for the Company in 2024: shareholders and other investors, employees and other workers, customers, suppliers and contractors, government agencies, and financial institutions.

1.3.1 Stakeholder Communication Channels

The Company will instruct the relevant responsible units to communicate with stakeholders as appropriate, and has designated a spokesperson and deputy spokesperson to serve as external communication channels. In the Stakeholders section of the corporate website, detailed contact information such as telephone numbers and email addresses is provided to address stakeholder concerns. This gives stakeholders a channel to communicate with the Company based on their needs.

Stakeholders	Purpose of Engagement	Engagement Channel/Frequency	Topics of Concern	Engagement Effectiveness and Response
Shareholders and other investors.	Provide capital needed for business operations.	<ul style="list-style-type: none"> ◆ Investor conference (as needed) ◆ Annual shareholders’ meeting ◆ Announcement on MOPS/corporate website (as needed) 	<ul style="list-style-type: none"> ◆ R&D innovation ◆ Financial performance ◆ Risk management 	<ul style="list-style-type: none"> ◆ One shareholders’ meeting ◆ One investor conference ◆ Published 40 updates on MOPS.

Stakeholders	Purpose of Engagement	Engagement Channel/Frequency	Topics of Concern	Engagement Effectiveness and Response
		<ul style="list-style-type: none"> Shareholders' telephone/email (as needed) 		
Employees and other workers.	Employees are the foundation of the Company's operations. The Company fosters a positive working environment and culture to enhance employee satisfaction and retention.	<ul style="list-style-type: none"> Hold regular Employee Welfare Committee and labor-management meetings to improve employee benefits and increase communication between labor and management. (Quarterly) During new hire onboarding, the Company proactively provides the sexual harassment reporting email address and contact number, ensuring employees are aware of the reporting channels. (as needed) 	<ul style="list-style-type: none"> Ethics and integrity/economic performance Employment/employee cultivation and retention Compliance/occupational safety and health Innovative R&D/human rights policy 	<ul style="list-style-type: none"> Four Employee Welfare Committee meetings Four labor-management meetings 16 new-hire onboarding trainings
Customer	Understand the customer's satisfaction with the Company's products (product performance), as well as the direction and potential for future partnerships.	<ul style="list-style-type: none"> Customer satisfaction survey (annually) Visit domestic and foreign customers from time to time (as needed). Sales email (as needed) Contact person for technical consultation (as needed) 	<ul style="list-style-type: none"> Customer service Customer privacy Customers' needs 	<ul style="list-style-type: none"> Annual satisfaction survey communication with 10 companies Reply to customer feedback questions daily, hold review meetings, and take action. We can provide immediate and accurate solutions for customers' technical needs or questions.
Suppliers/contractors	We establish and maintain long-term partnerships with suppliers, aiming to achieve innovation, explore new market needs, increase market share, reduce production	<ul style="list-style-type: none"> Visit communication meetings, emails, and telephone conferences (as needed) Annual supplier evaluation 	<ul style="list-style-type: none"> Supply chain sustainability management The Company complies with the "Supply Chain Sustainability 	<ul style="list-style-type: none"> We commend the quality and sustainability achievements of our top suppliers through the "Best Partner" award.

Stakeholders	Purpose of Engagement	Engagement Channel/Frequency	Topics of Concern	Engagement Effectiveness and Response
	and operating costs, and improve product quality through synergies such as resource and information sharing, complementary strengths, and competitiveness consolidation. This will enhance our competitive advantage and maximize customer satisfaction.		Management Procedures" to ensure suppliers continuously implement corporate sustainability management requirements (including environmental protection, social responsibility, and corporate governance).	♦ Annual supplier audit communication with eight suppliers.
Government agencies	Comply with various government regulations.	<ul style="list-style-type: none"> ♦ Announcement on MOPS (as needed) ♦ Correspondence of official documents (as needed) ♦ Labor inspection (unannounced) 	<ul style="list-style-type: none"> ♦ Compliance ♦ Remuneration and benefits ♦ Information security ♦ Corporate governance 	<ul style="list-style-type: none"> ♦ One corporate governance evaluation ♦ No violations of government regulations this year.
Financial institutions	The key contact person for working capital operations.	<ul style="list-style-type: none"> ♦ Bank visits (as needed) ♦ Telephone/email (as needed) 	<ul style="list-style-type: none"> ♦ Financial performance ♦ Risk management 	♦ Two visits this year

1.4 Identification of Material Topics

The Company's sustainability topics are determined based on the GRI Standards and the SASB Standards, and 15 sustainability topics have been summarized. External experts evaluate the actual or potential negative and positive impacts of the sustainability topic on the economy, environment, and society (people and human rights), as well as its financial significance. The negative impacts, positive impacts, and financial significance of each topic are then averaged, and those with a score of four or higher are identified as the Company's material topics. topics with a negative impact score of four or higher are also prioritized for consideration as material topics. The scoring results were discussed with external experts and representatives from various departments within the company. Based on past operational experience, the potential impact and significance of each topic were explored, leading to the identification of six material topics.

1.4.1 Major Topic Identification Results

Major Topic Identification Results			
Material topic		Sub-topic	
Emissions and Energy	Economic Performance	Procurement Practices	Freedom of Association and Collective Bargaining
Training and Education	Supplier Environmental and Social Assessment	Anti-corruption	Customer privacy
Labor Relations	Employee Diversity and Equal Opportunity	Occupational safety and health	

1.4.2 List of Material Topics

Material topic	Policies / Commitments	Response Actions	2025 Goals	Midterm Goals (2026 to 2030)	Long-term Goals (2031 to 2050)
Economic Performance	Pursue continuous "technology innovation" to create long-term and sustainable revenue and growth for the Company.	The Company has established sound corporate governance and internal control systems, and has an independent Board of Directors and an Audit Committee. Operational targets and corporate development strategies are set by a professional management team.	<ol style="list-style-type: none"> 1. Continue to maintain profitability. 2. Optimize the product portfolio and provide complete solutions to meet customer needs. 	We will increase the breadth and depth of product applications and reinforce our long-term partnerships with customers and the supply chain.	Increase the long-term investment value of the Company.
Employee Diversity and Equal Opportunity	Promote a culture of inclusion to ensure that recruitment, promotion, remuneration, and benefits are not affected by gender, age, race, religion, or other differences.	<ol style="list-style-type: none"> 1. Enhance executives' awareness of inclusiveness and leadership. 2. Regularly promote the concepts of diversity and equality. 	The number of employees with disabilities who are capable of working, hired in accordance with the <i>People with Disabilities Rights Protection Act</i> , exceeds 1% of the total workforce.	The number of employees with disabilities who are capable of working, hired in accordance with the <i>People with Disabilities Rights Protection Act</i> , exceeds 3% of the total workforce.	Establish a fair and impartial system for recruitment, evaluation, and promotion.
Training and Education	We provide continuous learning opportunities for employees and	<ol style="list-style-type: none"> 1. Development of professional skills and management training courses. 	All employees complete at least three hours of training courses annually.	All employees complete at least five hours of mandatory training courses annually.	Establish a lifelong learning system to support employee self-development.

Material topic	Policies / Commitments	Response Actions	2025 Goals	Midterm Goals (2026 to 2030)	Long-term Goals (2031 to 2050)
	strengthen their professional skills and management capabilities.	2. Periodically review the effectiveness of training courses and collect feedback.			
Labor Relations	Establish an open, transparent, and stable labor-management communication mechanism.	<ol style="list-style-type: none"> Increase the frequency and transparency of labor-management communication. Actively explain various employee benefits to new hires and provide communication channels (e.g., a sexual harassment email address and contact number). 	<ol style="list-style-type: none"> A labor-management meeting is held once per quarter, totaling four meetings annually, in full compliance with legal requirements. New hire training includes sexual harassment prevention and an explanation of the complaint mailbox system, with a 100% completion rate. 	<ol style="list-style-type: none"> The Company holds a "labor-management friendly dialogue" event annually, inviting participation from across departments and different job levels, to encourage more two-way communication and cross-level exchange of ideas. Implement "Annual Full Workforce Retraining" to enhance all employees' ongoing awareness of relevant topics, achieving an 85% completion rate. 	Establish a zero-conflict, zero-complaint, and harmonious working environment.
Supplier Environmental and Social Assessment	We work with supply chain partners to promote sustainable value chains that comply with the principles of environmental protection, social responsibility, and	<ol style="list-style-type: none"> Key suppliers are required to sign the "Supplier Social Responsibility and Sustainable Development Code of Conduct. For any non-conformities found during 	100% of key suppliers, both domestic and international, were audited in line with the annual audit plan. Non-conformities were identified, and corrective and preventive action	<ol style="list-style-type: none"> 100% of key suppliers, both domestic and international, were audited in line with the annual audit plan. Non-conformities were identified, and corrective and preventive 	<ol style="list-style-type: none"> 100% of key suppliers, both domestic and international, were audited in line with the annual audit plan. Non-conformities were identified, and corrective and preventive

Material topic	Policies / Commitments	Response Actions	2025 Goals	Midterm Goals (2026 to 2030)	Long-term Goals (2031 to 2050)
	corporate governance.	audits, the supplier is required to immediately address the problems. Any serious violations will result in a suspension of cooperation until qualification is confirmed.	requests were issued to drive continuous improvement, with regular follow-up conducted.	<p>action requests were issued to drive continuous improvement, with regular follow-up conducted.</p> <p>2. Key suppliers are required to achieve a 5% reduction in Category 1 and 2 GHG emissions by 2030.</p>	<p>action requests were issued to drive continuous improvement, with regular follow-up conducted.</p> <p>2. Key suppliers are required to achieve net-zero emissions by 2050.</p>
Emissions and Energy	Comply with national carbon reduction regulations and the 2050 net-zero target.	<ol style="list-style-type: none"> 1. Replace old, energy-intensive instruments and equipment with energy-efficient models. 2. To support energy conservation and GHG reduction policies and minimize environmental impact, we are promoting an electronic form system, implementing the use of recycled paper, and equipping air conditioners with a timed shut-off function. 	By adding energy-saving equipment, we expect to reduce energy waste and achieve a 3% reduction in Category 1 and 2 GHG emissions by 2025, compared to 2024.	Achieve a 5% reduction in Category 1 and 2 GHG emissions by 2030.	Achieve net-zero emissions by 2050.

1.4.3 Material Topic Value Chain Boundaries

Material topic	Corresponding Indicators	Rafael's Material Topic Value Chain Boundaries						
		Internal			External			
		Rafael	Employees and other workers.	Customer	Shareholder/ Investor	Suppliers/ contractors	Government agencies	Financial institutions
Economic Performance	GRI 201	■		▲	□	▲		□
Energy and emissions	GRI 302 GRI 305	■				□	■	
Supplier sustainability management	GRI 204 GRI 308 GRI 414	■		□		■	□	
Labor Relations	GRI 401	■	■				□	
Employee diversity and equality	GRI 405 GRI 413	■	■					

■: Direct impact; □: Indirect impact; ▲: Impact on business practices.

2 Commitment to Ethical Corporate Management

2.1 Business Philosophy

2.1.1 Board of Directors

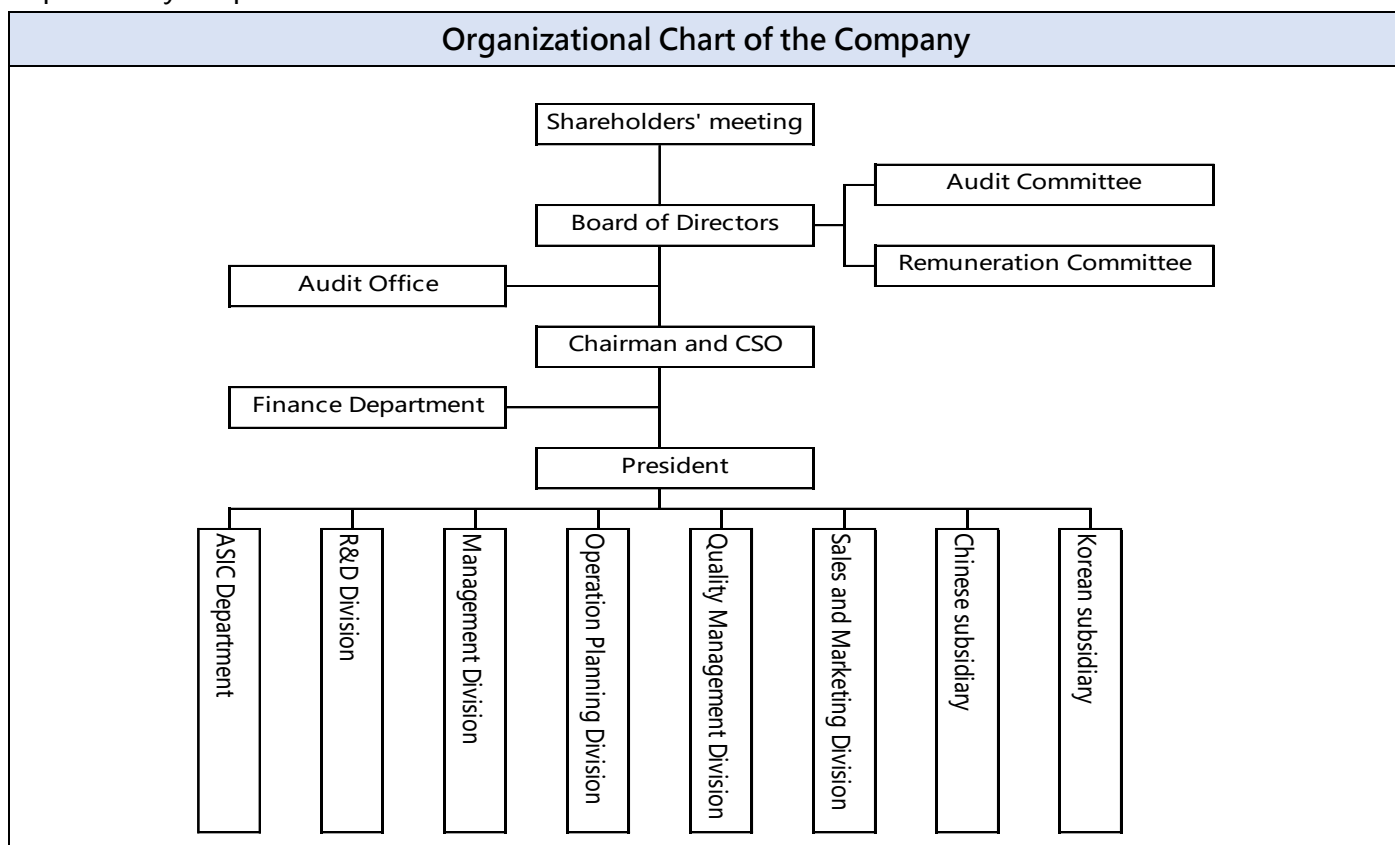
The Board of Directors is the Company's highest governing body. To effectively fulfill its functions, enhance operational and financial transparency, and improve the quality of decision-making to safeguard shareholder rights, the Board has established an Audit Committee and a Remuneration Committee, each operating under its respective authority and responsibilities. The "GHG Inventory Team" was established under the President's Office to ensure the promotion and implementation of corporate sustainable development tasks, and to report the resolution methods and results of each proposal to the Board of Directors on a regular basis. The nomination of Board members undergoes a rigorous selection process, considering factors such as diverse backgrounds, professional expertise, and experience, while also prioritizing their ethical conduct and leadership reputation. The professional qualifications, shareholdings, restrictions on concurrent positions, and methods of nomination and election for independent director candidates are all handled in accordance with the Company Act, the Securities and Exchange Act, and other relevant laws and regulations.

The current term of the Board of Directors runs from January 19, 2024, to January 18, 2027. The Board consists of nine members (including three independent directors). Among them, one director is an employee (11%), two are foreign nationals (22%), and three are independent directors (33%). None of the independent directors has served for more than nine consecutive years. The Company also places great emphasis on gender equality in the composition of the Board. Currently, there is one female Director (accounting for 11%). Due to the industry's characteristics, talent recruitment is not easy. In the future, the Company will actively seek an appropriate number of female Directors to strengthen the board's diversification.

The Company's highest management body is the Board of Directors, which has an Audit Committee and a Remuneration Committee to assist it in fulfilling its supervisory duties, enhancing transparency in operations and finances, and protecting shareholder rights. The Company's Articles of Incorporation stipulate that the election of directors (including independent directors) uses a candidate nomination system. The nomination of directors undergoes a rigorous selection process, considering not only diverse backgrounds, professional capabilities, and experience, but also their reputation for ethical conduct and

leadership. The professional qualifications, shareholdings, restrictions on concurrent positions, and methods of nomination and election for independent director candidates are all handled in accordance with the Company Act, the Securities and Exchange Act, and other relevant laws and regulations. The Chairman of the highest governing body is responsible for formulating operational strategies, managing operations, and assessing the necessity and reasonableness of internal control management.

The Company's current Board of Directors consists of six directors and three independent directors (representing 33% of the total number of directors). No more than two directors are related to each other by marriage or to within the second degree of kinship, ensuring objective and independent judgment on the Company's financial affairs and strengthening the Board's functions. The Board of Directors convenes at least once per quarter. In 2024, a total of six meetings were held, with eight directors achieving 100% attendance and one director recording an attendance rate of 86%. The Board members have taken the relevant continuing education in accordance with the "Directions for the Implementation of Continuing Education for Directors and Supervisors of TWSE Listed and TPEX Listed Companies," to continuously enhance the Board's understanding of amendments to laws and regulations and new topics, and improve corporate governance effectiveness. The Audit Committee and the Remuneration Committee are each composed of three independent directors, who diligently fulfill their supervisory responsibilities.



Board Member Information					
Title	Name	Gender	Date of First Appointment (or Election)	Main Educational and Professional Experience	Other Concurrent Positions Held in the Company and Other Companies
Chairman	Flexium Interconnect, Inc. Representative: Cheng David	Male	2024/01/19	<ul style="list-style-type: none"> University of California, Irvine Electrical Engineering. 	<ul style="list-style-type: none"> Chairman and CEO, Flexium Interconnect, Inc. CSO, QuantumZ Inc. Responsible person, Flexium Interconnect America LLC. Director, Etherdyne Technologies Inc.
Director	Flexium Interconnect, Inc. Representative: Cheng Ming-Chi	Male	2024/01/19	<ul style="list-style-type: none"> EMBA, National Sun Yat-Sen University 	<ul style="list-style-type: none"> Chairman, Flexium Interconnect, Inc. Chairman, Tai-Peng Development Co., Ltd. Chairman, QuantumZ Inc. Director of a company invested in by Flexium Interconnect, Inc.
Director	Flexium Interconnect, Inc. Representative: Moffatt, Robert Alexander	Male	2024/01/19	<ul style="list-style-type: none"> Massachusetts Institute of Technology, B.S. in Physics Stanford University, Ph.D. in Physics 	<ul style="list-style-type: none"> Chief Science Officer (CSO) & Co-Founder of Etherdyne Technologies Inc. (ETI)
Director	Flexium Interconnect, Inc. Representative: Lin, Pei-Ru	Female	2024/01/19	<ul style="list-style-type: none"> Department of Foreign Languages, National Chung Hsing University Responsible person, Shense Corporation 	<ul style="list-style-type: none"> Director, Flexium Interconnect, Inc. Chairman, Tai-Sheng International Investment Co., Ltd. Chairman, Ho-Sheng Investment Co., Ltd.
Director	Flexium Interconnect, Inc. Representative: Ted Sun	Male	2024/01/19	<ul style="list-style-type: none"> Bachelor in Electronic Engineering, Chung Yuan Christian University Master in Electrical Engineering, Rutgers - The State University of New Jersey-Camden EMBA, National Chiao Tung University Director of the Information Technology Operation Department of TSMC, with positions in manufacturing, global sales, and information engineering fields Chip designs for Integrated Device Technology, Inc. (IDT) Product engineer, United Microelectronics Corp. 	<ul style="list-style-type: none"> Responsible person, Demei International Investment Co., Ltd.

Board Member Information					
Title	Name	Gender	Date of First Appointment (or Election)	Main Educational and Professional Experience	Other Concurrent Positions Held in the Company and Other Companies
				<ul style="list-style-type: none"> ◆ Joint founder, Director, President, and CEO, Rafael Microelectronics, Inc. ◆ Director, Han Tang Co., Ltd. ◆ Director, Hong Yu Co., Ltd. 	
Director	Quincy Lin	Male	2024/01/19	<ul style="list-style-type: none"> ◆ PhD in Business Administration, University of Kentucky ◆ MBA, National Chiao Tung University ◆ Bachelor in Electronic Engineering, National Chiao Tung University ◆ Independent director, Powertech Technology Inc. ◆ Independent director, CChroma ATE Inc. ◆ Chairman, Rafael Microelectronics, Inc. ◆ Chairman and CEO, New Solar Power Technology Co., Ltd. ◆ Senior vice president, Taiwan Semiconductor Manufacturing Co., Ltd. 	<ul style="list-style-type: none"> ◆ Chairman, V5 Technologies Co., Ltd. ◆ Honorary Chairman, Rafael Microelectronics, Inc. ◆ Vice chairman, V5med Inc. ◆ Director, United Renewable Energy Co., Ltd.
Independent Director	Huang Shui-Tong	Male	2024/01/19	<ul style="list-style-type: none"> ◆ Chairman, Taiwan Law Society ◆ Prosecutor of District Prosecutors Office, judge of courts for first and second trials, and Division-Chief Judge ◆ Director-General, Criminal Court, Judicial Yuan ◆ Chief Judge of Jinmen, Penghu, Yilan, and Banqiao District Courts ◆ Chief Judge of Taiwan High Court Taichung Branch Court ◆ Member, Public Functionary Disciplinary Sanction Commission ◆ Passed the Senior Examination for Judge/Attorney in 1972 	<ul style="list-style-type: none"> ◆ Independent director, remuneration committee member, and audit committee member, Flexium Interconnect, Inc.

Board Member Information					
Title	Name	Gender	Date of First Appointment (or Election)	Main Educational and Professional Experience	Other Concurrent Positions Held in the Company and Other Companies
				<ul style="list-style-type: none"> ◆ Completed the 12th session of the Academy for the Judiciary ◆ Master in Law, Chinese Culture University 	
Independent Director	Anson Tseng	Male	2024/01/19	<ul style="list-style-type: none"> ◆ Vice president, BNP Paribas ◆ Director, Gemtek Technology Co., Ltd. ◆ MBA, University of Chicago ◆ Master, Graduate Institute of Communication Engineering, National Taiwan University ◆ Bachelor, Department of Communication, National Chiao Tung University 	<ul style="list-style-type: none"> ◆ Partner, Hwawei International Technology Consulting Co., Ltd. ◆ Representative of corporate supervisor, Hyena Inc. ◆ Supervisor, Castec International Corporation ◆ Director of Marketing and New Business Development, Landmark Optoelectronics Corporation ◆ Supervisor, Ninja Silicone (Taiwan) Co., Ltd. ◆ Independent director, audit committee member, and remuneration committee member, Zeitec Semiconductor Co., Ltd.
Independent Director	CH Chen	Male	2024/01/19	<ul style="list-style-type: none"> ◆ Master, Institute of Electronics, National Chiao Tung University ◆ Bachelor, Department of Electronic Engineering, National Chiao Tung University ◆ President, ASML Taiwan Ltd. ◆ Non-executive president, ASML Taiwan Ltd. ◆ Vice president, Phillips Taiwan Limited 	<ul style="list-style-type: none"> ◆ None
<p>Note:</p> <p>1. There are zero directors under the age of 30, three directors between the ages of 30 and 50, and six directors over the age of 50.</p>					

Name of Director	Basic composition					Industry experience				Professional ability		
	Nationality	Gender	Age	Employee Status	Years of service of Independent Directors	Finance and taxation	Business management	Law	Industry knowledge	Law	Finance and accounting	Business management
Flexium Interconnect, Inc. Representative: Cheng David	The U.S.	Male	31~40	V	-	-	V	-	V	-	-	V
Flexium Interconnect, Inc. Representative: Cheng Ming-Chi	Republic of China	Male	61~70	-	-	V	V	-	V	-	V	V
Flexium Interconnect, Inc. Representative: Moffatt, Robert Alexander	The U.S.	Male	31~40	-	-	-	V	-	V	-	-	V
Flexium Interconnect, Inc. Representative: Lin, Pei-Ru	Republic of China	Female	51~60	-	-	-	V	-	V	-	-	V
Flexium Interconnect, Inc. Representative: Ted Sun	Republic of China	Male	61~70	-	-	-	V	-	V	-	-	V
Quincy Lin	Republic of China	Male	71~80	-	-	V	V	-	V	-	V	V
Huang Shui-Tong	Republic of China	Male	71~80	-	Over three years	-	-	V	-	V	-	-
Anson Tseng	Republic of China	Male	41~50	-	Less than three years	-	V	-	-	-	V	V
CH Chen	Republic of China	Male	71~80	-	Less than three years	-	V	-	V	-	-	V

2.1.2 Avoidance of Conflict of Interest

The Company has established "Rules of Procedure for Board of Directors Meetings," which include a provision for directors to recuse themselves from matters in which they have a conflict of interest. A director with a personal or representative interest in a meeting agenda item must disclose the nature of that interest at the meeting. If the conflict of interest could be detrimental to the Company, the director may not participate in discussion or voting on the item, must recuse themselves from discussion and voting, and may not exercise voting rights on behalf of another director. If a director's spouse, a relative within the second degree of kinship, or a company with which the director has a controlling relationship has an interest in the matters of the meeting, the director is deemed to have an interest in those matters.

2024 Status of Directors' Recusal from Stakeholder Proposals			
Date	Proposal Content	Name of Director	Reasons for Recusal Due to Conflicts of Interest and Status of Voting Participation
2024/02/07	Discussion item 11: proposed to approve the company's managerial compensation plan.	Chairman David Cheng and director Cheng Ming-Chi	The Chairman recused himself from the proposal due to a conflict of interest, and the remaining directors have voted for approval

2024 Status of Directors' Recusal from Stakeholder Proposals			
Date	Proposal Content	Name of Director	Reasons for Recusal Due to Conflicts of Interest and Status of Voting Participation
2024/05/03	7th proposal for discussion: Approved the proposal for the cancelation of non-competition restrictions of the Company' s Directors	Chairman David Cheng	The Chairman recused himself from the proposal due to a conflict of interest, and the remaining directors have voted for approval
2024/10/28	2nd proposal for discussion: Approved the proposal for the distribution of the 1st restricted stock awards in 2024	Chairman David Cheng	The Chairman recused himself from the proposal due to a conflict of interest, and the remaining directors have voted for approval

2.1.3 Director Continuing Education

To enhance the professional knowledge and legal literacy of directors, the Company arranges continuing education courses annually to help directors update their knowledge. We hope to enhance our professionalism through the continuous arrangement of diversified external training courses, faithfully fulfill our duties in business execution and exercise the due care of a prudent administrator, and fully leverage our management decision-making and leadership supervisory functions. The professional training received by each director in 2024 is as follows:

Title	Name	Date of Continuing Education	Organized By	Course Name	Training Hours
Chairman	Flexium Interconnect, Inc. Representative: Cheng David	2024/10/18	Securities and Futures Institute	2024 Insider Trading Prevention Seminar	3
Director	Flexium Interconnect, Inc. Representative: Cheng Ming-Chi	2024/10/18	Securities and Futures Institute	2024 Insider Trading Prevention Seminar	3
Director	Flexium Interconnect, Inc. Representative: Moffatt, Robert Alexander	2024/12/09 ~2024/12/27	Santa Clara University	Overcoming the Five Dysfunctions of a Team	15
Director	Flexium Interconnect, Inc. Representative: Lin, Pei-Ru	2024/07/03	Cathay Financial Holdings	2024 Cathay Sustainable Finance and Climate Change Summit	3
Director	Flexium Interconnect, Inc. Representative: Ted Sun	2024/09/11	Taipei Exchange (TPEX)	Awareness Workshop for Insider Equity Trading for TPEX and Emerging Stock	3

Title	Name	Date of Continuing Education	Organized By	Course Name	Training Hours
				Board Listed Companies – Hsinchu Venue	
Director	Quincy Lin	2024/09/19	Securities and Futures Institute	Courses for directors, supervisors, and corporate governance officers - Silicon Photonics-defined Networks: Development Trends of Silicon Photonics (SiPh) and Co-packaged Optics (CPO)	3
Independent Director	Huang Shui-Tong	2024/10/08	Taipei Exchange (TPEX)	2024 WIW: Digital Finance and Sustainable Finance Amid the AI Boom	3
		2024/03/22	Taiwan Stock Exchange (TWSE) and BCSD Taiwan	CDP Taiwan Conference, Launching a New Carbon Era Campaign Powered by Sustainable Knowledge.	3
Independent Director	Anson Tseng	2024/09/10	Taiwan Corporate Governance Association	Industry 4.0 and Corporate Leadership in Innovation and Transformation	3
		2024/08/29	Taiwan Corporate Governance Association	Responsibilities of Directors and Supervisors in Corporate Mergers and Acquisitions	3
		2024/07/31	Securities and Futures Institute	Commissioned by ZEITEC Semiconductor Co., LTD – Advanced Seminar for Directors and Supervisors (including Independent Directors) and Corporate Governance Officers: “Corporate Governance and Securities Regulations”	3
Independent Director	CH Chen	2024/10/08	Taipei Exchange (TPEX)	2024 WIW: Digital Finance and Sustainable Finance Amid the AI Boom	3
		2024/09/11	Taipei Exchange (TPEX)	Awareness Workshop for Insider Equity Trading for TPEX and Emerging Stock Board Listed Companies – Hsinchu Venue	3

2.1.4 Board of Directors Performance Evaluation

The Company has established the "Board of Directors Performance Evaluation Measures" to enhance the operational efficiency of the Board of Directors. These measures specify annual performance evaluations of the entire Board, individual directors, and members of each functional committee. The overall evaluation of the Board of Directors shall include at least the following five key areas: participation in the Company's operations, enhancement of Board decision-making quality, Board composition and structure, director selection and ongoing training, and internal controls. The results of the performance evaluation of the Board of Directors shall be used as a reference for the selection or nomination of directors, and the individual performance evaluation results of each director shall be used as a reference for determining their individual remuneration. In 2024, the Company will conduct an internal performance evaluation of the Board of Directors, as detailed below:

Assessment cycle and duration	Scope of evaluation	Method of evaluation	Evaluation content	Evaluation results
For fiscal year 2024 (November 2023 to October 2024)	The overall Board	Internal self-evaluation of the Board	<ul style="list-style-type: none"> A. Level of participation in the Company's operations B. Improvement in the quality of the Board's decision-making C. Board composition and structure D. Election and continuing education of directors E. Internal control 	The rating results showed an excellent rating (with an average score of 4.90), indicating that the Company's overall Board operation is favorable and is in compliance with the spirit of corporate governance.
	Individual Board member	Self-evaluation of Directors	<ul style="list-style-type: none"> A. Alignment with the Company's goals and missions B. Awareness of directors' duties C. Level of participation in the Company's operations D. Management of internal relationships and communication E. Professionalism and continuing education of Directors F. Internal control 	The rating results showed an excellent rating (with an average score of 4.77), indicating that the Company's Board members have positive comments about the implementation of the operation of various indicators.
	Audit Committee	Self-evaluation of peers	<ul style="list-style-type: none"> A. Level of participation in the Company's operations B. Awareness of functional committees' duties C. Improvement in the quality of functional committees' decision-making D. The composition and 	The rating results showed an excellent rating (with an average score of 4.75), indicating that the Company's members have positive comments for the implementation of the operation of various

Assessment cycle and duration	Scope of evaluation	Method of evaluation	Evaluation content	Evaluation results
			functional committees and the election of members E. Internal control	indicators.
	Remuneration Committee	Self-evaluation of peers	A. Level of participation in the Company's operations B. Awareness of functional committees' duties C. Improvement in the quality of functional committees' decision-making D. The composition and functional committees and the election of members	The rating results showed an excellent rating (with an average score of 4.75), indicating that the Company's members have positive comments for the implementation of the operation of various indicators.

2.1.5 Audit Committee

Since February 2016, the Company has established an "Audit Committee" comprised of three independent directors. The Committee supervises the Company's business execution and financial status with integrity and independence, audits the Company's financial statements, assists the Board of Directors in fulfilling its supervisory duties, and is responsible for the tasks assigned by the Company Act, the Securities and Exchange Act, and other relevant laws and regulations. The functions and powers of the committee are as follows:

1. Establishment or amendment of internal control systems in accordance with Article 14-1 of the Securities and Exchange Act.
2. Evaluation of the effectiveness of the internal control system.
3. Establishment or amendment of procedures for acquiring or disposing of assets, engaging in derivative trading, lending funds to others, providing endorsements or guarantees for others, and other major financial transactions as stipulated in Article 36-1 of the Securities and Exchange Act.
4. Matters involving the interests of the directors.
5. Transactions of major assets or derivatives.
6. Loaning of funds, endorsement, or provision of guarantees.
7. Offering, issuance, or private placement of equity securities.
8. Appointment, discharge, or remuneration of certified public accountants.
9. Appointment and dismissal of the head of finance, accounting, or internal audit.
10. The financial reports signed or stamped by the Chairman, managers, and accounting officers for various quarters and fiscal years.
11. Any other material matters as defined by the Company or the competent authority.

The Audit Committee convened five times in 2024, with a 100% attendance rate, as shown in the table below.

Operation of the Audit Committee in 2024				
Title	Name	Number of attendance in person	Number of attendance by proxy	Actual attendance rate (%)
Convener	Huang Shui-Tong	5	0	100
Member	CH Chen	5	0	100
Member	Anson Tseng	5	0	100

2.1.6 Remuneration Committee

The Company formed a Remuneration Committee in April 2015. All three members are independent directors, and they faithfully perform the following duties with the due care of a good administrator, submitting their suggestions to the Board of Directors for discussion.

1. Regularly examine the Company's remuneration regulations and propose amendment recommendations.
2. Formulate and regularly examine the performance and remuneration policies, systems, standards and structures of the Company's directors, Audit Committee members, and managers.
3. Regularly evaluate the remuneration of directors, Audit Committee members, and managers of the Company.

In addition, the Remuneration Committee shall exercise its powers in accordance with the following standards:

1. Ensure that the Company's remuneration arrangements comply with relevant laws and regulations and are sufficient to attract outstanding talent.
2. The performance evaluation and remuneration of directors, Audit Committee members and managers shall be based on the general standards among peers with reference to the reasonableness of the linkage of individual performance to the Company's operating performance and future risks.
3. It shall not guide Directors and managers to engage in behaviors that exceed the risk appetite of the Company in the pursuit of remuneration.
4. The ratio of short-term performance bonuses and the timing of payment for some of the variable remuneration for directors and senior managers should be determined by considering industry characteristics and the nature of the Company's business.
5. A member of the Committee may not join the discussion and vote for their individual remuneration.

The Remuneration Committee held two meetings in 2024, with 100% attendance, as shown in the table below:

Operation of the Remuneration Committee in 2024				
Title	Name	Number of attendance in person	Number of attendance by proxy	Actual attendance rate (%)
Convener	Huang Shui-Tong	2	0	100
Member	CH Chen	2	0	100
Member	Anson Tseng	2	0	100

2.1.7 Sustainable Development

The Board of Directors and the company's management maintain close communication regarding the Company's operations. Every year, major strategies are formulated to address the rights and interests of all stakeholders, providing key guidance for sustainable management. The Company complies with relevant laws and regulations, has established and implemented an internal control system, and management regularly reports key material events (covering topics such as temperature control, financial risks, ESG, information security, ethical management, internal audit, and internal control) and relevant information to the Board of Directors, including quarterly financial reports and quarterly internal audit reports. In 2024, the Board of Directors approved the "Sustainable Information Management Operations" and "Sustainable Information Management Operations Audit," incorporating them into the internal control system and internal audit implementation rules. Implementation progress will be reported to the Board of Directors quarterly, in line with the GHG inventory and verification schedule. It is expected that the sustainability report will be published after the Board of Directors' approval starting in 2025.

2.2 Information Disclosure on Climate Risks and Opportunities

In recent years, with the increasing frequency of extreme climate events, the Company has, in order to address the impacts of climate change, referred to the framework of the TCFD (Task Force on Climate-related Financial Disclosures) to assess climate change risks and opportunities across governance, strategy, risk management, indicators, and targets. Formulate corresponding management strategies, GHG inventory, and carbon reduction plans based on the assessment results. Through these measures, the Company aims to promote environmental protection, energy conservation, and safety and health, bolster awareness of conservation, and further fulfill its corporate social responsibility. Please refer to the table

below for the major impacts the Company may face in the future, and their corresponding countermeasures.

Aspect	Countermeasures
Governance	<p>The Company has established a GHG inventory team comprising the President, the R&D Deputy President, and members from various departments. The President will serve as the convener, and the R&D Deputy President as the audit team leader. The leader will assign tasks to team members, coordinate and track the implementation of the annual plan, integrate each team member's plan and results, and report to the convener. The team will report to the Board of Directors at least once a year. As the highest governing body, the Board of Directors is responsible for supervising climate-related governance actions.</p>
Strategy	<p>With "2050 net-zero emissions" having become a global consensus on climate action, all global citizens share the responsibility, yet achieving this goal remains highly challenging. The following strategies will be adopted by Rafael to contribute to addressing climate change and lay the foundation for sustainable development and competitiveness:</p> <ul style="list-style-type: none"> ■ Improve energy efficiency: replace energy-intensive equipment promptly, promote energy-saving awareness among employees, implement energy-saving measures, and develop MCUs with low power consumption/high performance to improve energy efficiency. ■ Supply chain management: encourage suppliers to adopt more environmentally friendly production and operation methods. ■ Pay attention to trends and regulations related to climate change to ensure compliance and take appropriate action.
Risk management	<ul style="list-style-type: none"> ■ Policy and regulatory risks: increasingly stringent regulations regarding GHG emissions and the implementation of carbon fees could lead to potential financial cost increases. ■ Countermeasures: the Company has complied with regulations and introduced GHG inventory in 2024. To achieve the Company's carbon reduction targets, we have strengthened internal energy conservation promotion and require our suppliers to comply with international certification standards. ■ Physical risks: Taiwan is exposed to natural hazards such as typhoons and earthquakes. Although Rafael, as an IC design company, does not own large-scale manufacturing equipment, it remains vulnerable to potential financial losses resulting from these events. The Company closely monitors disaster warnings issued by the Central Weather Administration and maintains fire insurance coverage to mitigate the risk of financial losses from such events.
Indicators and targets	<ul style="list-style-type: none"> ■ Comply with the schedule set out in the "Sustainable Development Roadmap for TWSE/TPEX Listed Companies" to complete the GHG inventory and verification goals. ■ Complied with laws and regulations and introduced GHG inventory in 2024.
GHG Inventory Plan	<p>In 2024, a GHG inventory was conducted according to the "Sustainable Development Roadmap for TWSE/TPEX Listed Companies".</p>
External assurance	<p>External assurance is obtained in compliance with government regulatory requirements, following the prescribed verification schedule.</p>

GHG inventory team		
Position	Member	Responsibilities
Responsible supervisor	President (Convener)	<ul style="list-style-type: none"> ● Establishment and approval of the GHG inventory team. ● Supervises and provides the resources required for implementing GHG inventory management. ● Approve the "GHG Inventory Report" (as needed). ● Responsible for issuing and managing organizational documents.
Head of Audit Team	Head of R&D Division	<ul style="list-style-type: none"> ● Report the implementation status to supervisor regularly ● Execute the assigned tasks. ● Consolidate GHG emissions information provided by various departments. ● Cooperate in verifying the accuracy of the GHG inventory information. ● Develop GHG information management procedure documents, such as the inventory list compilation process, inventory report compilation specifications, and related tool forms. ● Internal verification of GHG emission quantities. ● Promote GHG inventory and reduction efforts.
Audit team members	<p>Appointed by the Finance Department Management Division – Appointed by the Human Resources Department Management Division – Appointed by the Information Management Department R&D Division - Appointed by the Software Development Department</p>	<ul style="list-style-type: none"> ● Promote the management and operation of GHG inventories. ● Implement operations related to GHG information management. ● Cooperate in GHG inventory management operations. ● Inventory and report departmental GHG emissions data. ● Responsible for providing organizational activity data. ● Responsible for the implementation and operation management of automated inventory and management systems. ● Responsible for data collection, consolidation, and filing. ● Preparation of the GHG Inventory Report.

2.3 Operational Performance

Material Topic: Economic Performance	
Reporting Requirements	Description and Example of Reporting Requirements
Major reasons for this topic	Stable operating revenue is the main reason for the company' s long-term sustainability.
Impact Category and Description	Positive economic impacts: operational innovation drives new product development, helps expand business scale, increases revenue and profits, as well as enhances market share and competitiveness. Negative economic impacts: long-term inflation concerns could intensify global financial market volatility.
Management Evaluation Mechanism	Through regular R&D projects and business meetings, we review product development progress and customer development status. Senior management reviews operational status through weekly cross-departmental meetings, while supervision and audits are conducted by the Audit Committee, the Board of Directors, and the shareholders' meeting.
Performance and Adjustment	In the industry environment with rapid changes, all employees of Rafael worked together to actively respond to challenges, seized opportunities for market growth, and achieve good business performance. The Operating gains in 2024 was NT\$100,866 thousand, showing growth compared to the previous year. We aim to expand the presence of international brands and refine our product portfolio, while developing strategies and goals to improve performance and maintain competitiveness.
Preventive or Remedial Measures	Management measures: actively ensure high product quality and expand the proportion of other overseas markets to reduce the risk of over-reliance on the Chinese market and maintain a higher gross margin. Remedial measures: quickly find stable alternative suppliers to reduce costs, actively reduce inventory, and maintain stable operating results.

2.3.1 Financial performance

Item/Year	2022	2023	2024
Operating income	1,303,136	996,020	1,065,491
Operating Costs	776,945	659,212	651,769
Gross profit	526,191	336,808	413,722
Operating income and loss	136,846	19,369	100,866
Non-operating income and expenses	(10,000)	19,227	31,730
Net income before tax	126,846	38,596	132,596
Net profit after tax for the current period	121,647	41,782	117,105
Total comprehensive income of the period	113,007	39,596	115,218
Earnings per share	4.05	1.38	3.85
Amount of employee benefits	1,124	2,387	1,221
Dividends	122,372	55,313	62,024
Employee remuneration (including employee benefit)	244,834	189,368	207,309
Retained economic value	133,922	89,004	163,136
Payments to capital contributors	122,372	55,313	31,012
Payments to the government	25,063	3,123	12,265
Community investment	0	0	0

Note:

- All figures are in NT\$ thousands, except for EPS, which is in NT\$.
 - The amount paid to the capital contributor refers to dividends paid to all shareholders, plus interest paid to lenders (including interest on any form of debt and borrowing), and unpaid dividends payable to preferred shareholders.
 - Payments to the government refer to all taxes (including business tax, income tax, and property tax) and fines.
 - Employee remuneration (including employee benefit) include labor and health insurance expenses, pension expenses, etc., which are benefits provided to employees in cash (excluding education and training, protective equipment costs, or other costs directly related to employees' job responsibilities). Another item, "amount of employee benefits," refers to the total benefits the Company allocates to the Welfare Committee for non-monetary employee expenses, such as travel and health checkups.
 - Community investment refers to donations and contributions.
 - Retained economic value: "direct economic value generated" - "economic value distributed".
- ※ Direct economic value generated: revenue.
- ※ Distributed economic value: operating costs, employee salaries and benefits, loan payments, payments to the government by country, and community investments.

2.3.2 Financial Subsidies

Although no financial subsidies were received in 2024, the Company will continue to monitor and apply for government subsidies aligned with its future development.

2.4 Ethical Corporate Management and Compliance

2.4.1 Anti-corruption System

The Company adheres to the principle of ethical management and strictly prohibits corruption, bribery, and improper exchange of benefits in any form. To ensure the Company upholds its business philosophy and implements ethical management, eliminating corruption and other malpractices, the Company has established the "Ethical Corporate Management Best Practice Principles", the "Codes of Ethical Conduct", along with relevant corporate governance guidelines and internal audit procedures. All employees are required to abide by professional ethics and ensure all business transactions comply with laws, regulations, and ethical standards.

We have established an internal whistleblowing system and complaint channels to implement the anti-corruption policy. The system accepts reports on fraud, conflicts of interest, and breaches of integrity, and protects the whistleblower's anonymity and right not to be retaliated against. The Company also regularly conducts integrity and ethics training for employees. It plans to hold one session in 2025 for 60 attendees to enhance the risk awareness and compliance understanding of all employees.

In 2024, no incidents of employee corruption or other major breaches of ethical conduct occurred at the Company and its subsidiaries. In the future, the Company will continue to strengthen its internal audit and risk control mechanisms, and expand the depth and scope of ethical governance, to create a transparent and responsible operational culture.

Whistleblowing Channel	
Handling unit	Human Resources Department
Communication address	10F, No. 28, Chenggong 12th Street, Zhubei City, Hsinchu County
Whistleblowing hotline	03-5506258 ext 249
Email	rafael.hr@rafaelmicro.com

2.4.2 Taxation Policy

The Finance Department is responsible for handling tax matters and various investment tax credit applications, and regularly participates in relevant tax courses. Information on tax laws is communicated to relevant departments within the Company as needed to keep them informed of risks and tax trends. If there are any unclear laws and regulations during daily operations, the Company will contact the CPA firm or the relevant government agency to inquire about the appropriate handling method.

The main stakeholders of Rafael are government tax authorities. All operations are conducted in accordance with applicable government tax laws and regulations, with supporting documentation retained as required to ensure legal and regulatory compliance and avoid penalties. The CPA firm reviews the quarterly financial statements to ensure the reasonableness and accuracy of the tax disclosures. If there is a tax audit, we will immediately prepare the relevant information upon receiving notification and cooperate with the tax authorities during the audit.

2.4.3 Compliance

Rafael has established the “Ethical Corporate Management Best Practice Principles.” Guided by the values of fairness, honesty, trustworthiness, and transparency in business activities. To implement the ethical corporate management policy while actively preventing unethical conduct, the Company has formulated these operating procedures and code of conduct in accordance with the “Ethical Corporate Management Best Practice Principles for TWSE/TPEX Listed Companies” and the relevant laws and regulations of its operating locations and group entities. These guidelines specify the requirements and points of attention for directors, managers, employees, mandataries, and persons with substantive control in the performance of their duties.

Each department shall regularly monitor significant amendments to laws and regulations relevant to its operations. The responsible department will revise the Company’s internal SOPs accordingly and notify relevant departments and management to ensure compliance. Various regulations will also be incorporated into standardized contracts to serve as a standard for business partners' collaboration with Rafael. The responsible departments will carefully vet the contracts to ensure that the relevant rules are effectively included in contracts and other documents, thereby ensuring compliance with domestic laws and regulations and the requirements of international standards.

To ensure all employees understand and comply with relevant laws and policies, the Company provides training on ethical management policies, trade secrets, and information security to all new hires on their first day. Additionally, various regulatory topics are discussed from time to time during monthly meetings. The audit unit also audits compliance with laws and regulations and updates internal regulations accordingly. In 2024, the Company did not incur

any significant fines or non-monetary penalties for violations of any social, economic, or environmental laws or regulations¹.

Stakeholders	Communication Channel	Topics of Concern	Contact Person
Investors	<ul style="list-style-type: none"> ◆ Shareholders' meeting ◆ Annual financial report 	<ul style="list-style-type: none"> ◆ Corporate governance ◆ Sustainable development strategy ◆ Integrity and ethics 	Su, Chin-Ya (rafael.ir@rafaelmicro.com)

2.4.4 Human Rights Protection

The Company complies with domestic labor laws and international human rights conventions to protect the basic human rights of all employees. Rafael prohibits discrimination, forced labor, and child labor; uphold freedom of association and collective bargaining rights; and ensure a respectful, fair, and safe working environment for all employees. We plan to incorporate topics such as "workplace equality," "sexual harassment prevention," "anti-discrimination," and "rights of people with disabilities" into future new hire onboarding programs. Additionally, we anticipate hosting one training session in 2025 with a target participation of 60 attendees, and will regularly provide all employees with education on relevant human rights laws and practical applications, to enhance human rights awareness and management responsibilities. The Company has an anonymous complaint mailbox and a dedicated hotline for employees to report any human rights violations, including sexual harassment, inappropriate treatment, or workplace discrimination.

The Company is committed to providing an inclusive and friendly working environment, regardless of gender, age, family status, or other personal traits. These policies and measures contribute to employee well-being and job satisfaction, and also demonstrate the Company's commitment to diversity and equality. In 2024, the Company received no human rights complaints and experienced no incidents of violating employee human rights commitments.

¹According to Article 4, Paragraph 1 of the Taiwan Stock Exchange Corporation Procedures for Verification and Disclosure of Material Information of Companies with Listed Securities, the cumulative amount of fines for a single incident reaching NT\$1,000,000 or more.

3 Product and Environmental Sustainability

3.1 Management Guidelines

Material Topic: Emissions and Energy	
Reporting Requirements	Description and Example of Reporting Requirements
Major reasons for this topic	Increase energy efficiency and the proportion of renewable energy usage, and collaborate with the supply chain to achieve green operation goals.
Management Evaluation Mechanism	The GHG Inventory Team conducts GHG inventory and subsequent management annually. Report the effectiveness of climate management execution to the Board of Directors at least annually.
Performance and Adjustment	The first 2024 GHG inventory has been completed, with Category 1 and 2 emissions totaling 201.1406 tonnes of CO ₂ e.
Preventive or Remedial Measures	The Company actively reduces emissions from emission hot spots and plans to purchase renewable energy certificates to reduce Category 2 purchased electricity emissions.

Material Topic: Supplier Environmental and Social Assessment	
Reporting Requirements	Description and Example of Reporting Requirements
Major reasons for this topic	Enhance the Company and brand reputation among end customers and consumers, while reducing environmental impacts in product production, warehousing, and logistics, and lowering related costs to meet the growing consumer demand for sustainable development.
Management Evaluation Mechanism	Supplier audits are conducted annually in accordance with the supplier management procedures. These audits cover quality management and sustainable management requirements for suppliers' products, and the supplier sustainability management system is assessed via a supplier annual audit questionnaire. This questionnaire includes items such as labor conditions, environmental responsibility, occupational safety, and ethical governance.
Performance and Adjustment	On-site audits of five key suppliers ² were completed in 2024, and the quality and sustainability management requirements of all suppliers were met.
Preventive or Remedial Measures	We conduct annual sustainability risk assessments of qualified suppliers. Under the "Corrective Measures Management Procedure," any nonconformities identified result in corrective and preventive action requests to drive continuous improvement and follow-up.

To encourage invention and innovation, maintain a competitive edge, and protect R&D results, the Company has established the *Confidential Information Protection Regulations*, implemented intellectual property rights management plans, and formulated the *Patent Application and Patent Right Management Regulations* to govern matters related to patent application, patent maintenance, patent utilization, and patent bonuses/awards. To carefully evaluate the Company' s patent proposals, the Company has established an internal patent review mechanism with a "Patent Committee" . Committee members include senior

²Key suppliers are defined as the top five suppliers in terms of annual procurement amount.

executives from the Company's relevant units and highly respected IC design professors from outside the organization. The internal review and opinions of the committee help to refine the technical content of invention proposals, effectively ensuring patent quality and increasing the likelihood of patent approval.

In addition, the Company conducts regular patent inventories to examine the application of patents and their association with related products, which is used as a basis for evaluating patent value. Meanwhile, to enhance R&D personnel's awareness of and respect for patent rights and to prevent inadvertent infringement of intellectual property, the Company requires all new R&D hires to sign an "Intellectual Property Rights Commitment" prior to employment. This confirms their pre-employment non-compete obligations, the ownership of intellectual property created, and their adherence to the Company's intellectual property regulations. The Company obtained two invention patents in China and Taiwan in 2024, bringing its total number of granted global patents to 43.

The Company regularly conducts trade secret protection training and awareness campaigns. In addition to new hires completing a trade secret protection test as part of their onboarding, the Company also provides regular trade secret awareness training to current employees, with 73 attendees in 2024. Internally, we have created a secure information environment for confidential documents to control the flow of information. Externally, when disclosing or receiving confidential documents, we require the signing of a confidentiality agreement and relevant employees to comply with its terms.

3.2 Innovative Products and Services

3.2.1 Product Control

The Company's products comply with the EU *RoHS Directive* (2011/65/EU and its amendments) and are halogen-free. They also comply with the control requirements for substances of very high concern (SVHC) under the REACH regulations. All materials are verified through the supply chain to ensure the products comply with environmental protection regulations during manufacturing and use. In addition to suppliers' routine testing of raw materials, the Company annually selects a product at random and sends it to an independent third-party organization (such as SGS Laboratories) for hazardous substance testing to ensure product quality and regulatory compliance. The 2024 test results all met regulatory requirements.

3.2.2 R&D and Design of Energy-saving Products

The Company provides diversified reference design kits to assist customers in product evaluation and development. These kits feature ultra-low power consumption, excellent receiving sensitivity, excellent frequency selection, and high energy efficiency, providing ideal solutions for smart grids, smart homes, smart cities, and professional IoT applications. Customers can easily achieve Internet of Things (IoT) wireless connectivity by integrating our cost-effective RF chip modules into existing systems, enhancing overall system performance and market competitiveness.

The 2024 launch of the RT584 chip series demonstrates improved energy efficiency compared to the previous generation products, the RT581, RT582, and RT583. The power consumption is reduced by approximately 50% in transmission and receiving modes, and further reduced by 55% in sleep mode, significantly extending the device's battery life, up to twice as long as before.

3.2.3 Customer privacy

Personal Information Protection Management System	
Data security management	Data access is managed and controlled, and centrally handled by dedicated personnel.
Personnel management	Through employee training and awareness campaigns, we remind employees to use and safeguard personal data responsibly.
Equipment security management	System data is regularly backed up to an offsite location, and anti-virus software is installed to prevent information security incidents.

To implement information security management, the Company has established an internal control system, including the computerized information processing cycle, computer information processing regulations, and computer data and network management procedures, to achieve the following policy goals:

1. Ensure that the ownership and control of information assets are appropriately managed.
2. Ensure that the data is accessed according to the functions of the departments.
3. Monitor, record and investigate information security incidents to ensure the continued operation of the information system.
4. Regularly organize information security training and promotion to enhance employees' information security awareness and comply with information security requirements.
5. Regularly perform information security audits to ensure the implementation of information security.

3.3 Green Supply Chain

In 2024, over 80% of our local procurement were in the labor and financial categories, demonstrating our commitment to supporting and fostering domestic manufacturers.

Contract Type	Procurement Region	2022		2023		2024	
		Number of Suppliers	Percentage of this procurement amount in total procurement (%)	Number of Suppliers	Percentage of this procurement amount in total procurement (%)	Number of Suppliers	Percentage of this procurement amount in total procurement (%)
Labor services (contracting and services)	Domestic	7	21	13	29	10	28
	Overseas	5	9	3	5	2	16
Property (raw materials)	Domestic	4	66	3	66	5	56
	Overseas	3	4	1	0	1	0
Total		19	100	20	100	18	100

Note: domestic refers to Taiwan; foreign refers to areas outside of Taiwan (e.g., China).

To minimize the impact of our business operations on the environment, we have established supplier management procedures and hazardous substance management procedures, and continue to strengthen our requirements for environmental impact due diligence to ensure compliance with international standards. This allows us to systematically identify, assess, and manage potential environmental risks in the supply chain. We have established specific operating procedures with reference to international environmental protection regulations and relevant international guidelines, covering the selection, evaluation, monitoring, and continuous improvement of suppliers.

In terms of supplier management, we comprehensively understand suppliers' environmental management systems, compliance with laws and regulations, and actual implementation status through surveys, document reviews, on-site audits, and regular performance evaluations. We have actively engaged suppliers in discussions to analyze the causes of potential risks discovered and jointly formulate specific and feasible improvement plans. We also provide necessary technical support to help suppliers implement sustainable practices such as energy conservation and carbon reduction, resource recycling, waste disposal, and pollution prevention.

Through this ongoing due diligence and cooperation mechanism, we hope to prevent or mitigate potential negative environmental impacts in the supply chain. We also work with

suppliers to promote environmental protection and sustainable development, establishing a resilient, transparent, and responsible supply network to respond to stakeholders’ concerns and expectations regarding environmental and social topics.

The Company’s wafer supplier, TSMC, has passed the Responsible Business Alliance (RBA) and other international third-party organizations’ supplier due diligence certification³. Its sustainable management system and implementation effectiveness have been fully recognized. Therefore, the Company only confirms whether suppliers provide valid third-party verification or compliance statements in supplier management, and considers this fulfillment of sustainable management requirements, generally foregoing additional on-site audits.

Stakeholders	Communication Channel	Topics of Concern	Contact Person
Supplier	<ul style="list-style-type: none"> ◆ Supplier audit ◆ Supplier complaint channel ◆ Promote and implement environmental, safety, and health and corporate social responsibility-related management activities with suppliers. 	<ul style="list-style-type: none"> ◆ Customer service ◆ Sustainable development strategy ◆ Integrity and ethics ◆ Compliance 	Kenny Yan (kenny.yan@rafaelmicro.com)

3.4 Energy and emissions

The Company is committed to energy conservation, carbon reduction, and resource sustainability. Beyond continuously monitoring electricity usage and maintaining air conditioning efficiency, the Company proactively implements energy-saving and waste reduction initiatives through improvements to the office environment and changes in employee behavior, to foster green operations. To improve energy efficiency and reduce energy consumption, the Company has adopted the following energy-saving and resource sustainability measures. These measures not only reduce energy consumption and carbon emissions during operation, but also increase employees’ recognition of and willingness to practice green office initiatives, including:

- Energy-saving lighting: sensor lights are used throughout the hallway, and switches are automatically adjusted based on occupancy to reduce unnecessary energy waste.
- Air conditioner management: the office air conditioner is equipped with timer switches and reasonable temperature settings, and is regularly maintained by a professional vendor to ensure equipment efficiency and reduce energy consumption.

³Please refer to <https://esg.tsmc.com/file/public/c-AResponsiblePurchaser.pdf>

- Reduce the amount of office supplies used: employees are switching to refillable whiteboard pens instead of disposable ones, thereby extending the lifespan of items and reducing consumable waste.
- Plastic reduction: we encourage employees to use reusable tableware to reduce plastic waste and resource waste.

Energy Consumption Within the Company		
Fixed Quantity Indicators	Unit	2024
Electricity Consumption	kWh/Year	333,218.4
	GJ	1,199.586
Gasoline Consumption	L/Year	0
	GJ	0
Organization-specific Metrics	Turnover (NT\$ million)	1,065.491
Total Energy Consumption	GJ	1,199.586
Energy Intensity	GJ/Turnover (NT\$ million)	1.126

Note:

1. The calorific value of electricity is converted to 1 kWh = 0.0036 GJ.
2. The source of the conversion factor is the 2023 Energy Statistics Handbook of the Energy Administration, and the 2024 Automotive Gasoline and Diesel Heat Value and Environmental Gas Emission Factor Management Table 6.0.4 is used to calculate fuel heat values: gasoline 7,609 kcal/L; diesel 8,642 kcal/L; liquefied petroleum gas 6,635 kcal/m³; 1 kcal = 4.184 KJ.
3. The scope of data covers the Taiwan headquarters.

GHG emissions		
Item	Unit	2024
Category 1: Direct GHG emissions	Tonnes CO ₂ e	29.2018
Category 2: Indirect GHG emissions	Tonnes CO ₂ e	171.9388
Total emissions = Category 1 + Category 2	Tonnes CO ₂ e	201.1406
Organization-specific Metrics	Turnover (NT\$ million)	1,065.491
GHG emission intensity	Tonnes CO ₂ e/turnover (NT\$ million)	0.1888

Note:

1. Category 1 includes emission sources directly owned or controlled within the boundary. The emission factor is calculated based on the data published by the Energy Administration, MOEA, in its latest Version 6.0.4 announcement (based on the IPCC Sixth Assessment Report).
2. Category 2 refers to indirect emissions from energy.
3. The emission factor for purchased electricity is based on values published by the Energy Administration, MOEA. For 2024, the emission factor is 0.474 kg CO₂e/kWh for Taiwan, 0.5366 kg CO₂e/kWh for China (Ministry of Ecology and Environment), and 0.495 kg CO₂e/kWh for Korea (Korea Environmental Industry & Technology Institute).
4. The scope of GHG emissions from the parent company and its overseas subsidiaries under management or operational control is as follows:

GHG emissions	
Name	Address
(Taiwan Headquarters) Rafael Microelectronics, Inc.	Nos. 20-38 (Even Numbers), Chenggong 12th Street, Zhubei City, Hsinchu County, Taiwan
(Mainland China Office) ShenZhen Rafael Microsystems, Inc.	Room 2906, Building A, Excellence Baozhong Times Square Phase I, No. 15-1 Haitian Road, N23 Area, Haibin Community, Xinan Subdistrict, Baoan District, Shenzhen City, China
(Korea office) Rafael Microelectronics Korea	R1135, 11F., Owners Tower, 28, Hwangsaedul-ro 200beon-gil, Bundang-gu, Seongnam-si, Gyeonggi-do, 13595 KOREA

3.5 Water Resource Management

The Company is located in Zhubei City, Hsinchu County, Taiwan. The water supply in this area mainly comes from the surface water of Touqian River and Baoshan Reservoir. With comprehensive water conservation implemented in daily operations and production processes requiring almost no water—mainly for domestic use—there are no concerns regarding water waste. No wastewater has been discharged in the past three years. In addition, the Company regularly monitors changes in water consumption and updates water-saving faucets and other related items to minimize water usage. The Company does not discharge industrial wastewater, only domestic wastewater. The Company has implemented wastewater discharge in accordance with relevant laws and regulations. The statistics of the Company’s water consumption and wastewater treatment methods are as follows:

2024 Water Consumption and Wastewater Treatment Table				
Factory Type	Total Water Withdrawal (tonnes)		Total Water Discharge (tonnes)	Wastewater Treatment Method
	Tap Water	Groundwater	Tap Water + Groundwater	
Taiwan Headquarters	797.78	-	Not applicable, as it is not in the manufacturing industry.	Domestic sewage is discharged into the municipal sewer system.
Total	797.78	-		
	797.78			
Total water consumption	Not applicable, as it is not in the manufacturing industry.			
Organization-specific metrics (unit)	Turnover (NT\$ million)			
Organization-specific metric values	1,065.491			
Water use intensity (WUI)	0.7485			

2024 Water Consumption and Wastewater Treatment Table

Note:

1. Total water consumption = Total water withdrawal - total water discharge
2. The calculation of WUI is: water withdrawal (ML)/turnover (NT\$ million).
3. The scope of data covers the Taiwan headquarters.

3.6 Use of Raw Materials and Waste Disposal

3.6.1 Raw Material Consumption

In 2024, the Company consumed approximately 392 thousand chips, all of which were non-renewable materials. Due to the growth in sales in 2024, purchase volume and R&D consumption also increased significantly compared to the past two years.

Consumption of Raw Materials and Non-renewable Resources.

Raw Material Name	Unit	Whether it is Renewable	2022	2023	2024
Chips	In thousands of pieces	Non-renewable	272	242	392

Note:

1. Non-renewable resources are those that cannot be replenished in the short term.

3.6.2 Waste Disposal

The Company is a professional IC design company. Its products are wafers produced by foundries and outsourced to packaging and testing facilities for further processing; therefore, no process waste is generated. Most of the waste consists of domestic waste, and is centrally handled by qualified environmental protection companies commissioned by the building management committee.

4 Friendly Workplace

4.1 Management Guidelines

Material Topic: Diversity and Equal Opportunity	
Reporting Requirements	Description and Example of Reporting Requirements
Major reasons for this topic	to build a diverse, inclusive, and non-discriminatory workplace, enhance employee belonging, and strengthen organizational competitiveness, the Company values differences in gender, age, background, and physical and mental health, and is committed to providing fair job opportunities and promotion systems. This topic is highly relevant to attracting and retaining talent, reducing the risk of unfair discrimination, and enhancing the organization' s image.
Management Evaluation Mechanism	<ol style="list-style-type: none"> 1. Regulations for personnel recruitment, selection, and appointment: to ensure a fair and just selection process and avoid discriminatory requirements. 2. Salary distribution policy: salaries are determined based on job responsibilities and performance evaluation results, to avoid any impact on compensation due to gender, age, or other non-work-related factors. 3. Regulations for employee training: Provide equal training opportunities and incorporate courses on diversity and inclusion.
Performance and Adjustment	Although the Company did not employ any people with disabilities in 2024, it plans to raise the proportion of employees with disabilities to over 1% of the total workforce in 2025.
Preventive or Remedial Measures	We will strengthen cooperation with local county/city employment service stations or local physical and mental disability resource centers, increasing the hiring rate through referral and matching.

Material Topic: Training and Education	
Reporting Requirements	Description and Example of Reporting Requirements
Major reasons for this topic	The Company regards employees as its most important asset. Through continuous training and education, it enhances employees' professional skills, management capabilities, and sustainability awareness, strengthens overall organizational competitiveness, and supports their personal career development. A comprehensive education and training system helps build a learning organization culture, reduce employee turnover, and strengthen work efficiency and organizational identification.
Management Evaluation Mechanism	<ol style="list-style-type: none"> 1. Regulations for recruitment, selection, and appointment of personnel: new personnel shall complete new hire onboarding. 2. Employee training regulations: regulate training planning, implementation, and effectiveness evaluation processes. 3. Personal data protection management regulations and confidential information protection regulations: Provide relevant confidentiality and information security training.
Performance and Adjustment	It is expected that all employees will complete at least three hours of various training courses in 2025 (including functional, occupational safety, information security, gender equality, and ethical management training).
Preventive or Remedial Measures	The list of employees who have not completed the training will be provided to department heads to help them arrange additional training.

Material Topic: Labor-Management Relations	
Reporting Requirements	Description and Example of Reporting Requirements
Major reasons for this topic	Labor-management relations are the core foundation of sustainable development. Through the establishment of a fair, transparent, and stable labor-management communication mechanism, the Company can effectively strengthen organizational cohesion, improve employee satisfaction and sense of belonging, prevent labor disputes, and establish a harmonious workplace environment.
Management Evaluation Mechanism	<ol style="list-style-type: none"> 1. Regulations for personnel recruitment, selection, and appointment: ensure fair employment and consistent labor conditions. 2. Regulations for employee performance evaluations: ensure fairness and close communication with labor representatives. 3. Personal information protection management regulations and confidential information protection regulations: protect employee personal data and information security. 4. Business ethics: regulate employee conduct and promote respect and harmony.
Performance and Adjustment	<ol style="list-style-type: none"> 1. One labor-management meeting is held each quarter, totaling four meetings annually, fully complying with legal requirements. 2. The training courses for new hires include "Sexual Harassment Prevention and Complaint Mailbox Explanation," achieving a completion rate of 100%.
Preventive or Remedial Measures	<ol style="list-style-type: none"> 1. If repeated, unresolved issues are found in the labor-management meeting minutes, they will be tracked in each subsequent meeting, with a responsible unit and a deadline assigned. 2. New employee courses are reviewed annually, and the content and methods of teaching materials are adjusted (e.g., videos, practical exercises).

4.2 Talent Recruitment and Retention

4.2.1 Talent Hiring and Turnover

In 2024, Rafael had a total number of 97 employees, comprising 25 women and 72 men, all of whom are regular, full-time employees with no part-time or contract workers. The senior executive team consists of five managers, and the Company has engaged one non-employee as a professional consultant. The total number of employees decreased by three compared to 2023 due to the completion of some R&D projects, which led to no corresponding manpower expansion, and the natural attrition of staff who were not replaced in a timely manner.

In 2024, the Company hired 11 men and 5 women, totaling 16 new employees, which represents a new hire rate of 16.49%. During 2024, 19 employees (16 men and 3 women) left the Company, reflecting a turnover rate of 17.53%, which was lower than in 2023. The following is a description of the gender and age distribution of employees.

Number of employees				
Region	Contract Type	Female	Men	Total
Taiwan Headquarters	Total number of employees	25	72	97
	➤ Regular employees	25	72	97
	➤ Full-time employees	25	72	97

Note:

1. In 2024, the Company employed only regular, full-time employees; there were no temporary employees, part-time employees, or employees without guaranteed hours.

Non-employee Workers		
Worker Type	Contractual Relationship with the Company	Total Number of Workers
Professional consultant	Contract employment	1

Note:

1. In 2024, the Company hired four professional consultants to assist with business operations. As of year-end, one consultant was retained to provide ongoing professional support.

Employee Distribution by Job Type in the Last Three Years					
Year			2022	2023	2024
Item/Gender	Age		Number of Employees	Number of Employees	Number of Employees
Managerial Staff	Men	Under 30	0	0	0
		Ages 30–50	1	1	2
		51 and above	6	5	2
	Female	Under 30	0	0	0
		Ages 30–50	0	1	1
		51 and above	1	0	0
Total Number of Managerial Staff			8	7	5
Non-managerial Staff	Men	Under 30	15	14	7
		Ages 30–50	62	51	57
		51 and above	5	6	4
	Female	Under 30	4	3	2
		Ages 30–50	17	17	21
		51 and above	1	2	1
Total Number of Non-managerial Staff			104	93	92
Total Number of Employees			112	100	97

Note:

1. The managerial staff is defined as managers in accordance with Jin-Guan-Zheng-Jiao-Zi No. 1120384295.

New hires in the last three years												
Year	2022				2023				2024			
Gender	Men		Female		Men		Female		Men		Female	
Age\Item	Number of Employees	New hire rate (%)	Number of Employees	New hire rate (%)	Number of Employees	New hire rate (%)	Number of Employees	New hire rate (%)	Number of Employees	New hire rate (%)	Number of Employees	New hire rate (%)
Under 30	9	8.04	2	1.79	3	3	0	0	2	2.06	1	1.03
Ages 30–50	8	7.14	1	0.89	2	2	1	1	9	9.28	4	4.12
51 and above	1	0.89	1	0.89	1	1	0	0	0	0	0	0
Total number of new hires	22				7				16			
Total number of employees	112				100				97			
Total new hire rate (%)	19.64				7.00				16.49			

Note:

1. The number of new hires does not deduct employees who left during the period.
2. Rate of new male (female) hires by age group = (Number of new male (female) employees hired in the year within that age group) / (Total number of employees at the Company' s operating locations at year-end).
3. Total new hire rate = Number of new hires for the year / Total number of employees at the Company' s operating locations at year-end.

Resigned employees in the last three years												
Year	2022				2023				2024			
Gender	Men		Female		Men		Female		Men		Female	
Age\Item	Number of Employees	Turnover rate(%)	Number of Employees	Turnover rate (%)	Number of Employees	Turnover rate (%)	Number of Employees	Turnover rate (%)	Number of Employees	Turnover rate (%)	Number of Employees	Turnover rate (%)
Under 30	3	2.68	0	0	2	2	1	1	2	2.06	0	0
Ages 30–50	0	0	0	0	13	13	0	0	8	8.25	2	2.06
51 and above	15	13.39	2	1.79	4	4	0	0	4	4.12	1	1.03
Total number of resigned employees	20				20				17			
Total number of employees	112				100				97			
Total turnover rate (%)	17.86				20				17.53			

Note:

1. Categorization of resigned employees (e.g., resignation, termination, separation, retirement, or death in the line of duty, etc.)
2. Turnover rate of male (female) employees by age group = (Number of resigned male (female) employees during the year for that age group) / (Total number of employees at the Company' s operating locations at year-end).
3. Total employee turnover rate = Number of employees who resigned during the year / Total number of employees at the Company' s operating locations at year-end.

4.2.2 Protection of work equality

The Company upholds the principles of "respect for human rights" and "employing people based on their talents," and complies with the "Labor Standards Act," the "Employment Service Act," and the "Act of Gender Equality in Employment," among other regulations, to ensure no infringement on the rights of indigenous peoples. It firmly opposes child labor and forced labor and eliminates all forms of illegal discrimination to ensure equal job opportunities. In 2018, the Company employed one individual from a minority or disadvantaged group, who resigned in March 2022. There have been no cases of infringement on the rights of indigenous peoples.

In addition, we periodically review the implementation of issues such as child labor, underage labor, forced labor, sexual harassment, labor-management communication, and freedom of expression, to ensure a healthy and safe working environment. In the future, the Company plans to incorporate courses or lectures on preventing infringement of indigenous peoples' rights into its training program.

Employees from minority or disadvantage groups				
Year		2022	2023	2024
Item/Gender	Age	Number of Employees	Number of Employees	Number of Employees
Minority or disadvantaged groups	Men	Under 30	0	0
		Ages 30–50	0	0
		51 and above	0	0
	Female	Under 30	0	0
		Ages 30–50	0	0
		51 and above	0	0

Stakeholders	Communication Channel	Topics of Concern	Contact Person
Employee	<ul style="list-style-type: none"> Welfare Committee Labor-management meeting Employee complaint channel 	<ul style="list-style-type: none"> Employee communication Human Rights Remuneration and benefits 	Jason Peng (jason.peng@rafaelmicro.com)

4.2.3 Minimum notice periods for major operational changes

The Company complies with the Labor Standards Act and other relevant laws and regulations. If the Company undergoes a major operational change or needs to terminate an employment

relationship, the employment contract will be terminated in accordance with government regulations. The notice periods are as follows:

- I. If an employee has worked for more than three months but less than one year, they must provide 10 days' notice.
- II. If an employee has worked for more than one year but less than three years, they must provide 20 days' notice.
- III. If an employee has worked for more than three years, they must provide 30 days' notice.

4.2.4 Employee remuneration

The Company is committed to providing a competitive and fair remuneration system. The salary is determined based on employees' positions, performance, the talent market, and the Company's operating results. The Company complies with relevant laws and regulations to ensure all employees receive fair remuneration and benefits. The remuneration of employees includes a fixed salary, performance bonus (employee bonus), year-end bonus, and other incentive measures such as patent bonuses and recommendation bonuses. The Company promotes the principle of "equal pay for equal work," ensuring that employees in the same positions with comparable performance levels receive the same treatment regardless of gender, age, or other factors. In addition, the Company reviews high-tech industry trends and employee performance annually to adjust annual salaries, and offers a promotion mechanism for high-performing employees to enhance employee satisfaction and retention.

The Company is a professional IC design company, and consequently, the salary structure for R&D and engineering personnel is significantly higher than that of administrative and rank-and-file personnel. Furthermore, the proportion of male employees in engineering roles (including R&D) is higher than that of female employees in administrative/rank-and-file roles. Therefore, when calculating average salary by gender, the average salary for male employees is significantly higher than that for female employees. Diversity and inclusiveness are at the core of our corporate culture, ensuring that every employee can unleash their potential. Salary adjustments are based on industry development and individual performance, while also complying with local minimum wage standards and the principle of gender equality. These measures jointly promote progress toward our sustainable development goals, create more job opportunities in Taiwan, and foster continued growth with the local community.

Remuneration ratio by job category	Number of Employees		Remuneration ratio	
	Female	Male	Female	Male
Managerial positions	1	4	1.0	1.7
Non-managerial positions	24	68	1.0	2.0

Note:

1. Female-to-male salary ratio (annual salary ratio): average annual salary of women in this category/average annual salary of men in this category.
2. The managerial staff is defined as managers in accordance with Jin-Guan-Zheng-Jiao-Zi No. 1120384295.

Country /Region	The ratio of the annual total salary of the highest paid individual to the median annual total salary of employees (excluding the highest paid individual).	The ratio of the percentage increase in the annual total salary of the highest-paid individual to the median percentage increase in the annual total salary of other employees (excluding the highest-paid individual).
Taiwan	263%	-572% ^(Note 5)

Note:

1. Formula for calculating the annual median salary ratio: annual total salary of the highest-paid individual/median annual total salary of other employees
2. Formula for calculating the annual salary increase ratio: percentage increase in the annual total salary of the highest-paid individual/median of the percentage increase in the annual total salary of other employees.
3. Annual total salary: fixed salary plus variable salary for the year (such as year-end bonus, employee bonus, etc.).
4. The managerial staff is defined as managers in accordance with Jin-Guan-Zheng-Jiao-Zi No. 1120384295.
5. This is a negative value, primarily because the highest salary change rate is negative, while the median salary change rate for other employees is positive.

According to the regulations of the FSC, we disclose the average and median salaries of full-time non-managerial employees, along with the year-over-year changes for both figures. The median salary for these employees is NT\$1,512 thousand, while the average salary is NT\$1,695 thousand. This is higher than the industry average of NT\$1,307 thousand, demonstrating our competitive salary levels.

Item	2024	
Full-time non-managerial employees (unit: persons)	77	
Total annual salary of full-time non-managerial employees (unit: NT\$ thousands)	130,549	
Annual salary of full-time non-managerial employees (unit: NT\$ thousands)	Average	1,695
	Median	1,512
Annual salary of full-time non-managerial employees and 2023 salary change rate.	Average	18.4%
	Median	12.8%

Note:

1. This statistic is consistent with the disclosure on the MOPS.
2. The number of full-time employees is the annual average.

4.3 Employee Care

The Company values a diverse and inclusive culture and is committed to providing a fair and just working environment. Periodically review policies and procedures to ensure that discriminatory practices do not occur. According to the Employment Service Act and other relevant laws and regulations, discrimination in any form is strictly prohibited (e.g., based on gender, age, race, religion, sexual orientation, etc.) We conduct annual training on anti-discrimination, equal treatment, and diversity and inclusion for all employees. In addition, the Company is committed to complying with the *Convention on the Rights of the Child* and the labor laws and regulations of various countries, and strictly prohibits the use of child labor. Conduct supply chain reviews and visits annually, especially for suppliers in high-risk areas. In the contract, the use of child labor is explicitly prohibited, and violators will be placed on a blacklist. At the same time, the Company strictly abides by the International Labour Organization (ILO) Convention and prohibits all forms of forced or compulsory labor. Ensure that all operating locations and suppliers comply with the basic principles of labor rights. Periodically review labor conditions and the work environment, and provide safe complaint channels.

4.3.1 Retirement and Benefits

In terms of employee benefits, the basic salary of all employees at the Company is not differentiated based on gender, race, religion, political stance, marital status, or club membership. However, salary levels may vary depending on job scope, individual qualifications, and work performance, and are adjusted and increased annually based on work performance and specialized skills.

The Company was established in 2006 and currently has no employees under the old retirement system. When an employee retires, the Company handles retirement matters in accordance with the *Labor Standards Act*, the *Labor Pension Act*, and other relevant regulations, by contributing 6% of the employee's monthly salary to their personal pension account. For employees who choose to voluntarily contribute to their pension, the Company also deducts the amount from their monthly salary based on their voluntary appropriation ratio, remits the amount to their individual pension accounts managed by the Bureau of Labor Insurance, and carries out pension-related matters in accordance with relevant regulations to fully implement the employee retirement protection system. We create a positive working environment through the above measures to attract and retain outstanding talent.

In addition to the *Labor Standards Act* and related laws and regulations, we provide labor insurance, national health insurance, and pension reserve for employees, distribute remuneration based on the overall business performance of the Company and the individual performance of employees, and provide the participation opportunities for stock ownership plans, referral bonuses, innovation patent bonuses, and other diverse incentive systems. In addition, the Company purchased group insurance and business trip/travel safety insurance, regularly arranged annual health inspections for in-service employees, and provided drawing lots at the year-end dinner, a leave system more favorable than the legal requirements, and multiple welfare measures.

The Company has its Employee Welfare Committee in place to further optimize the employee care system. The welfare fund is appropriated according to the law to coordinate, plan for, and implement various employee welfare matters, with the content covering year-end dinner activity planning and implementation, travel and recreational activity subsidies, gift money for marriage and childbirth, department gathering allowances, bi-weekly vigor treats, and condolences/flower baskets for funerals. An employee cafeteria is in place to provide basketball machines, snack stations, and capsule coffee; we continue to improve employees' well-being and work satisfaction.

4.3.2 Measures for protecting the rights and interests of employees

The Company has established comprehensive working rules and various management regulations and systems that clearly regulate the rights, obligations, and welfare of employees to protect the rights and interests of employees and create a safe and healthy working environment. The relevant implementation measures are as follows:

- Fire safety equipment inspections are conducted annually in the working areas in accordance with fire safety regulations to ensure that facilities are operating normally.
- To enhance the ability to respond to disasters, the Company has purchased commercial fire insurance and public accident liability insurance to provide employees with more comprehensive protection.
- The Company fully subsidizes occupational hazard insurance premiums to ensure that employees are protected in the event of an accident during work hours.
- The Office has implemented a 24-hour security system to strictly control personnel access and ensure the safety of the working environment.
- Regular health checkups are arranged for employees, and professional physicians are also available to provide health inspection report consultation services to assist employees in understanding their personal health status.

- The Company actively promotes various health improvement activities to strengthen employees' health management awareness and practices.
- The Company has installed comprehensive emergency response facilities and rescue measures, including automated external defibrillator (AED), to strengthen emergency response capabilities.
- According to the healthy workplace standards, continue to implement the highlighted measures for workplace safety and employees' health.

In 2024, the Company did not experienced fire or occupational disasters, which indicates that the Company has recorded favorable results in terms of work safety and employee health management.

Parental leave without pay implementation status			
Year	2024		
Gender/Total	Men	Female	Total
Number of employees qualified for parental leave without pay (A)	10	1	11
Number of employees who applied for parental leave without pay in the current year (B)	0	0	0
Number of employees expected to return from parental leave without pay in the current year (C)	0	0	0
Number of employees who returned from parental leave without pay in the current year (D)	0	0	0
Number of employees who returned from parental leave in the previous year (E)	0	0	0
Number of employees who have worked for one year after returning from parental leave without pay in the previous year (F)	0	0	0
Parental leave without pay return-to-work rate (%) for the current year (%) (D/C)	0%	0%	0%
Parental leave without pay retention rate for the current year (%) (F/E)	0%	0%	0%

Note:

1. As no relevant data were collected in 2022 and 2023, statistical surveys commenced in 2024.

4.4 Cultivation and Improvement of Talent

The Company believes that talent is the cornerstone of sustainable development and continues to invest in talent development and professional growth to foster a positive learning culture, helping employees thrive within the organization while enhancing both individual capabilities and overall corporate competitiveness. Actual policies and practices, for example:

- The training system: design diverse training programs such as onboarding, job function development, general education courses, supervisory training, and practical project work, tailored to different job levels and functions.
- New hire onboarding: we provide systematic new hire onboarding and workplace integration programs to help new hires quickly familiarize themselves with the Company' s culture and job responsibilities.
- Foster a learning culture: We encourage employees to proactively learn, offering online learning resources, book subsidies, internal training seminars, and cross-departmental sharing opportunities to foster a work environment of continuous growth.
- Career development support: Regular work reviews and development discussions with employees are conducted to help them plan their mid- to long-term career paths and achieve alignment between their personal aspirations and professional roles.
- Knowledge sharing and technology exchange: The Company promotes the flow of internal knowledge and fosters innovative thinking through the implementation of a mentorship system, experience-sharing platforms, and cross-departmental discussion meetings.

The Company values the continuous learning and professional growth of its employees, and provides both internal and external training courses to meet the development needs of different positions and levels. General employees receive both internal and external training. Internal courses are delivered by senior executives or professional lecturers and focus on techniques and systems directly related to the Company' s business. Management personnel primarily participate in external training, which offers broader cross-industry perspectives on strategic leadership, management trends, and legal compliance, thereby expanding executives' horizons and fostering external connections. In the future, we will continue to optimize learning resources, introduce more digital tools and diversified training methods to create a "Learning Organization," and strengthen the employee career planning mechanism, hoping that every employee can unleash their potential within the Company, realize their value, and contribute to long-term growth together.

The Company does not distinguish between direct and indirect personnel. All personnel are professional and competence-based, focusing on R&D, engineering, and design. The Company is positioned in the upstream IC design sector of the technology industry, with a core focus on chip design and innovative development. It does not own wafer fabrication facilities or a physical laboratory, and manufacturing is outsourced to external foundries.

2024 Employee External Training Status					
Item/Category		Managerial positions		Non-managerial positions	
Unit/Gender		Male	Female	Male	Female
Total number of people	Person	2	1	2	5
Training hours	Hour	15	48	38	74
Average training hours	Hour/person	7.5	48	19	14.8
Training expenses	In NT\$ thousands	-	31	14	37

Note:

1. (Total number of managerial staff + total number of non-managerial staff) = Total number of employees at operating locations.
2. (Total number of direct personnel + Total number of indirect personnel) = Total number of employees at operating locations.
3. The managerial staff is defined as managers in accordance with Jin-Guan-Zheng-Jiao-Zi No. 1120384295.
4. The managerial staff of the Company is primarily trained externally, and the Company does not employ direct or indirect personnel.

Status of non-managerial employee internal training in 2024			
Item/Category		Non-managerial positions	
Unit/Gender		Male	Female
Total number of people	Person	19	0
Training hours	Hour	95	0
Average training hours	Hour/person	5	0

Note:

1. (Total number of managerial staff+ total number of non-managerial staff) = Total number of employees at operating locations.
2. (Total number of direct personnel + Total number of indirect personnel) = Total number of employees at operating locations.
3. The managerial staff is defined as managers in accordance with Jin-Guan-Zheng-Jiao-Zi No. 1120384295.
4. The managerial staff of the Company is primarily trained externally, and the Company does not employ direct or indirect personnel.

To promote employee self-growth and ongoing organizational improvement, the Company conducts annual performance evaluations for all employees. Through a clear process and open dialogue mechanism, the evaluation results reflect personal contributions and serve as a basis for development. The performance evaluation process is outlined below:

- Self-assessment: Employees conduct a self-assessment based on work targets and actual performance at the end of the year, reviewing their annual achievements and areas for improvement.
- Manager interviews: Every employee will have a one-on-one meeting with their direct supervisor to discuss goal progress, work challenges, collaboration, and future development.
- The supervisor conducts an overall evaluation based on the self-assessment, actual work performance, and team contribution, and provides a performance evaluation score.
- Feedback and development: The evaluation results will be used as the basis for annual salary adjustments and bonus distributions, job adjustments, talent cultivation and development plans, and constructive feedback will be used to promote employee growth.

The Company conducts an annual performance evaluation for all employees. Employees complete a self-evaluation and have a one-on-one interview with their supervisors to promote two-way communication and growth. The supervisor conducts a comprehensive performance evaluation based on the employee's overall performance, and ensures fairness through a calibration process. The evaluation results serve as the basis for salary adjustments, rewards, job changes, and talent development, with ongoing feedback and personal development support to help employees enhance their capabilities.

Item	Managerial positions	Non-managerial positions
Percentage of male employees evaluated (%)	100%	93% (Note 1)
Percentage of female employees evaluated (%)	100%	100%

Note:

1. The percentage of male non-managerial employees who received a performance review was lower than 100% because employees originally scheduled for the 2024 review resigned before April 2025.
2. The Company does not have any direct or indirect personnel.

Appendix

Appendix 1: GRI Standards Comparison Table

Statement of Use	Rafael has referenced the GRI Standards to report the information cited in the GRI content index for the period from January 1 to December 31, 2024.
GRI 1 used	GRI 1: Foundation 2021

GRI Standards category/topic	Number	Disclosure under GRI Standards	Corresponding chapter	Page number	Omissions/remarks
1. Organization and reporting practices					
GRI 2 General Disclosures 2021	2-1	Organizational Details	1.1 About Rafael	5	
	2-2	Entities included in the organization' s sustainability reporting.	About the Report	4	
	2-3	Reporting period, frequency, and contact point	About the Report	4	
	2-4	Restatements of information	About the Report	4	
	2-5	External Assurance	About the Report	4	
2. Activities and workers					
GRI 2 General Disclosures 2021	2-6	Activities, Value Chain, and Other Business Relationships	1.1 About Rafael	5	
	2-7	Employee	4.2 Talent Recruitment and Retention	45	
	2-8	Non-employee workers	4.2 Talent Recruitment and Retention	45	
3. Governance					
GRI 2 General Disclosures 2021	2-9	Governance structure and composition	2.1 Business Philosophy	17	
	2-10	Nomination and selection of the highest governing body	2.1 Business Philosophy	17	
	2-11	Chair of the highest governance body	2.1 Business Philosophy	17	
	2-12	Role of the highest governing body in overseeing impact management.	2.1 Business Philosophy	17	
	2-13	Delegation of responsibility for managing impacts	2.1 Business Philosophy	17	
	2-14	Role of the highest governing body in sustainability reporting	2.1 Business Philosophy	17	
	2-15	Conflicts of interest	2.1 Business Philosophy	17	
	2-16	Communication of critical concerns	2.1 Business Philosophy	17	
	2-17	Collective knowledge of the highest governance body	2.1 Business Philosophy	17	
	2-18	Evaluation of the performance of the highest governance body	2.1 Business Philosophy	17	
	2-19	Remuneration policies	2.1 Business Philosophy	17	
2-20	Process to determine remuneration	2.1 Business Philosophy	17		

GRI Standards category/topic	Number	Disclosure under GRI Standards	Corresponding chapter	Page number	Omissions/remarks
	2-21	Annual total compensation ratio	4.2 Talent Recruitment and Retention	45	
4. Strategy, policy and practice					
GRI 2 General Disclosures 2021	2-22	Statement on Sustainable Development Strategy	Message from the Chairman	3	
	2-23	Policy Commitments	1.2 Sustainable Governance and Commitment	9	
	2-24	Embedding policy commitments	1.2 Sustainable Governance and Commitment	9	
	2-25	Processes to remediate negative impacts	1.2 Sustainable Governance and Commitment	9	
	2-26	Mechanisms for seeking advice and raising concerns	2.4 Ethical Management and Compliance	33	
	2-27	Compliance	2.4 Ethical Management and Compliance	33	
	2-28	Membership associations	1.1 About Rafael	5	
5. Stakeholder Engagement					
GRI 2 General Disclosures 2021	2-29	Approach to stakeholder engagement	1.3 Stakeholder Engagement	10	
	2-30	Collective bargaining agreements	Not applicable	-	No collective bargaining agreements

GRI Standards category/topic	Number	Disclosure under GRI Standards	Corresponding chapter	Page number	Omissions/remarks
Topic-specific Standards: 200 series (economic topics)					
Economic Performance					
GRI 201 Economic performance topic disclosures 2016	3-3	Material topic Management	1.4 Identification of Material topics	12	
	201-1	Direct economic value generated and distributed	2.3 Operational Performance	31	
	201-2	Financial implications and other risks and opportunities due to climate change	2.2 Information Disclosure on Climate Risks and Opportunities	28	
	201-3	Defined benefit plan obligations and other retirement plans	4.3 Employee Care	51	
	201-4	Financial subsidies received from the government	2.3 Operational Performance	31	
Procurement Practices					
GRI 204	204-1	Proportion of spending on local suppliers	3.3 Green Supply Chain	39	

GRI Standards category/topic	Number	Disclosure under GRI Standards	Corresponding chapter	Page number	Omissions/remarks
Procurement practices topic disclosures 2016					
Anti-corruption					
GRI 205 Anti-corruption topic disclosure 2016	205-1	Operations assessed for risks related to corruption	2.4 Ethical Management and Compliance	33	
	205-2	Communication and training about anti-corruption policies and procedures	2.4 Ethical Management and Compliance	33	
	205-3	Confirmed incidents of corruption and actions taken.	2.4 Ethical Management and Compliance	33	
Anti-competitive behavior					
GRI 206 Disclosure of anti-competitive behavior topics 2016	206-1	Legal actions for anti-competitive behavior, antitrust, and monopolistic practices	2.4 Ethical Management and Compliance	33	
Tax					
GRI 207 Tax topic management and disclosure. 2019	207-1	Taxation Policy	2.4 Ethical Management and Compliance	33	
	207-2	Tax governance, control, and risk management.	2.4 Ethical Management and Compliance	33	
	207-3	Stakeholder communication and management on tax-related topics	2.4 Ethical Management and Compliance	33	
GRI 207 Tax topic disclosure 2019	207-4	Country-by-country reporting	Not applicable	-	The Company is exempt from submitting a country-by-country report.
Topic-specific Standards: 300 Series (environmental topics)					
Materials					
GRI 301 Material topic disclosures 2016	301-1	Materials used by weight or volume.	3.6 Use of Raw Materials and Waste Disposal	43	
	301-2	Use of recycled materials.	3.6 Use of Raw Materials and Waste Disposal	43	
	301-3	Reclaimed products and their packaging materials	3.6 Use of Raw Materials and Waste Disposal	43	
*Energy and emissions					
GRI 302 Energy topic disclosures 2016	3-3	Material topic Management	3.1 Management Approach	36	
	302-1	Energy consumption within the organization.	3.4 Energy and Emissions	40	
	302-3	Energy intensity	3.4 Energy and Emissions	40	

GRI Standards category/topic	Number	Disclosure under GRI Standards	Corresponding chapter	Page number	Omissions/remarks
	305-1	Direct (Category 1) GHG emissions	3.4 Energy and Emissions	40	
	305-2	Energy indirect (Category 2) GHG emissions	3.4 Energy and Emissions	40	
	305-5	Reduction of GHG emissions	3.4 Energy and Emissions	40	
Water and Effluents					
GRI 303 Water and effluent management and disclosure 2018	303-1	Interactions with water as a shared resource	3.5 Water Resource Management	42	
	303-2	Management of water discharge-related impacts	3.5 Water Resource Management	42	
	303-3	Water withdrawal	3.5 Water Resource Management	42	
	303-4	Water discharge	3.5 Water Resource Management	42	
	303-5	Water consumption	3.5 Water Resource Management	42	
Waste					
GRI 306 Waste topic management and disclosure 2020	306-1	Waste generation and significant waste-related impacts	3.6 Use of Raw Materials and Waste Disposal	43	
	306-2	Management of significant waste-related impacts	3.6 Use of Raw Materials and Waste Disposal	43	
	306-3	Waste generation	3.6 Use of Raw Materials and Waste Disposal	43	
	306-4	Waste diverted from disposal	3.6 Use of Raw Materials and Waste Disposal	43	
	306-5	Waste directed to disposal	3.6 Use of Raw Materials and Waste Disposal	43	
* Supplier Environmental and Social Assessment					
GRI 308 Supplier Environmental Assessment topic Disclosure 2016	3-3	Material topic Management	3.1 Management Approach	36	
	308-1	New suppliers that were screened using environmental criteria	3.3 Green Supply Chain	39	
	308-2	Negative environmental impacts in the supply chain and actions taken	3.3 Green Supply Chain	39	
GRI 414 Supplier social assessment topic disclosure 2016	414-1	New suppliers that were screened using social criteria	3.3 Green Supply Chain	39	
	414-2	Negative social impacts in the supply chain and actions taken	3.3 Green Supply Chain	39	
Topic-specific Standards: 400 Series (social topics)					
*Labor Relations					
GRI 401	3-3	Material topic Management	4.1 Management Approach	44	

GRI Standards category/topic	Number	Disclosure under GRI Standards	Corresponding chapter	Page number	Omissions/remarks
Labor relations topic disclosure 2016	401-1	New employee hires and employee turnover	4.2 Talent Recruitment and Retention	45	
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	4.3 Employee Care	51	
	401-3	Parental leave	4.3 Employee Care	51	
Labor relations					
GRI 402 Labor relations topic disclosure 2016	402-1	Minimum notice periods regarding operational changes	4.2 Talent Recruitment and Retention	45	
*Training and Education					
GRI 404 Training and education topic disclosure. 2016	3-3	Material topic Management	4.1 Management Approach	44	
	404-1	Average hours of training per year per employee	4.4 Cultivation and Enhancement of Talent	54	
	404-2	Programs for upgrading employee skills and transition assistance programs	4.4 Cultivation and Enhancement of Talent	54	
	404-3	Percentage of employees receiving regular performance and career development reviews.	4.4 Cultivation and Enhancement of Talent	54	
*Diversity and Equal Opportunity					
GRI 405 Diversity and equal opportunity topic disclosure 2016	3-3	Material topic Management	4.1 Management Approach	44	
	405-1	Diversity of governance bodies and employees	4.2 Talent Recruitment and Retention	45	
	405-2	Ratio of basic salary and remuneration of women to men	4.2 Talent Recruitment and Retention	45	
Non-discrimination					
GRI 406 Non-discrimination topic disclosure 2016	406-1	Incidents of discrimination and corrective actions taken by the organization	2.4 Ethical Management and Compliance 4.2 Talent Recruitment and Retention 4.3 Employee Care	33 45 51	
Child labor					
GRI 408 Child labor topic disclosure 2016	408-1	Operations and suppliers at significant risk for incidents of child labor	2.4 Ethical Management and Compliance 4.2 Talent Recruitment and Retention 4.3 Employee Care	33 45 51	
Forced or compulsory labor					

GRI Standards category/topic	Number	Disclosure under GRI Standards	Corresponding chapter	Page number	Omissions/remarks
GRI 409 Forced or compulsory labor topic disclosure 2016	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	2.4 Ethical Management and Compliance 4.2 Talent Recruitment and Retention 4.3 Employee Care	33 45 51	
Security Practices					
GRI 410 Security practice topic disclosure 2016	410-1	Security personnel trained in human rights policies or procedures	Not applicable	-	The Company has no security personnel.
Rights of Indigenous Peoples					
GRI 411 Indigenous Peoples' rights topic disclosure 2016	411-1	Incidents of violations involving rights of indigenous peoples	4.2 Talent Recruitment and Retention	45	
Customer Health and Safety					
GRI 416 Customer health and safety topic disclosure 2016	416-1	Assessment of the health and safety impacts of product and service categories	3.2 Innovative Products and Services	37	
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	3.2 Innovative Products and Services	37	
Marketing and Labeling					
GRI 417 Marketing and labeling topic disclosure 2016	417-1	Requirements for product and service information and labeling.	3.2 Innovative Products and Services	37	
	417-2	Incidents of non-compliance concerning product and service information and labeling.	3.2 Innovative Products and Services	37	
	417-3	Incidents of non-compliance concerning marketing communications	3.2 Innovative Products and Services	37	
Customer privacy					
GRI 418 Customer privacy topic disclosure 2016	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	3.2 Innovative Products and Services	37	

Customized topics	Number	Disclosure under GRI Standards	Corresponding chapter	Page number	Omissions/remarks
Protection of intellectual property			3.1 Management Approach	36	

Appendix 2: SASB Comparison Table

Industry: Technology & Communications_Semiconductor					
Topic	Accounting indicators	Category	Number	Corresponding chapter	Page number
GHG emissions	Gross global Scope 1 emissions	Quantification	TC-SC-110a.1	3.4 Energy and Emissions	40
	Amount of total emissions from perfluorinated compounds (presented as CO2 equivalent)	Quantification		Not applicable	-
	Disclose the long-term and short-term strategies or plans, emission reduction targets, and performance analysis for Category 1 emissions.	Analysis and discussion	TC-SC-110a.2	3.4 Energy and Emissions	40
Energy management in manufacturing	Total Energy Consumption	Quantification	TC-SC-130a.1	3.4 Energy and Emissions	40
	Percentage of grid electricity used	Quantification		3.4 Energy and Emissions	40
	Percentage of renewable energy used	Quantification		3.4 Energy and Emissions	40
Water resource management	Total water withdrawal and percentage of areas under high water stress	Quantification	TC-SC-140a.1	3.5 Water Resource Management	42
	Total water consumption and percentage of areas under high water stress	Quantification		3.5 Water Resource Management	42
Waste management	Percentage of hazardous waste generated and recycling rate in the manufacturing process.	Quantification	TC-SC-150a.1	Not applicable	-
Employee health and safety	Description of efforts to assess, monitor, and reduce exposure of employees to human health hazards	Analysis and discussion	TC-SC-320a.1	Not applicable	-
	Total monetary losses resulting from legal events due to violations of employee health and safety regulations.	Quantification		2.4 Ethical Management and Compliance	33
Recruiting & managing a global & skilled workforce	Describe the percentage of foreign employees who require work visas and the potential recruitment risks.	Analysis and discussion	TC-SC-330a.1	4.2 Talent Recruitment and Retention	45
Product lifecycle management	Percentage of products by revenue that contain IEC 62474 declarable substances, and a discussion on how to reduce the use of these substances.	Analysis and discussion	TC-SC-410a.1	3.6 Use of Raw Materials and Waste Disposal	43

	Processor energy efficiency at a system-level for: (1) servers, (2) desktops, and (3) laptops	Quantification	TC-SC-410a.2	Not applicable	-
Materials sourcing	Description of the management of risks associated with the use of critical materials	Analysis and discussion	TC-SC-440a.1	3.3 Green Supply Chain (Note: Risk management of key materials is the responsibility of contractors)	39
Intellectual property protection and competitive behavior	Total amount of monetary losses as a result of legal proceedings associated with anticompetitive behavior regulations	Quantification	TC-SC-520a.1	2.4 Ethical Management and Compliance	33
Accounting indicators	Total production	Quantification	TC-SC-000.A	1.1 About Rafael	5
	Percentage of production from owned facilities	Quantification	TC-SC-000.B	1.1 About Rafael	5

Appendix 3: Comparison Table of Climate-Related Information for TWSE/TPEX Listed Companies

Item	Implementation status		
<p>1. Describe the monitoring and governance of climate-related risks and opportunities by the Board and the management.</p>	<p>To effectively respond to climate change-related topics, the Board is the highest governing body for climate topics. In the face of the challenges of climate change, the Company has formulated policies to strengthen the management and response to climate risks. The responsible departments are responsible for the assessment and management of climate risks, the formulation and confirmation of the actions based on strategies or target plans, and the Chief regularly reports to the Board regarding the current progress of the GHG inventory and verification timetable.</p>		
<p>2. Describe how the identified climate risks and opportunities affect the business, strategy and finance of the Company (short-, mid-, and long-term).</p>	<p>Climate risks and opportunities have extensive effects on the business, strategy, and financial position of enterprises, and such effects have different characteristics in the short-, mid-, and long-term:</p> <table border="1"> <tr> <td style="text-align: center; vertical-align: middle;">Short-term</td> <td> <p>A. Business effects: Extreme weather events (i.e., heavy rains, floods or droughts) may directly affect the production, supply chain and logistics. For example, the supply chain interruption may lead to production stagnation, tight inventory or inability to deliver products in time.</p> <p>B. Strategic adjustment: Enterprises may need to adjust their strategies in response to climate change, including emergency response measures, diversification of the supply chain, and insurance coverage. This may result in additional costs, but it will help mitigate short-term risks.</p> <p>C. Financial pressure: The sudden climate event may cause additional costs and losses to enterprises (i.e., facility repair and alternative supply chains), which may cause pressure on the financial position of enterprises.</p> </td> </tr> </table>	Short-term	<p>A. Business effects: Extreme weather events (i.e., heavy rains, floods or droughts) may directly affect the production, supply chain and logistics. For example, the supply chain interruption may lead to production stagnation, tight inventory or inability to deliver products in time.</p> <p>B. Strategic adjustment: Enterprises may need to adjust their strategies in response to climate change, including emergency response measures, diversification of the supply chain, and insurance coverage. This may result in additional costs, but it will help mitigate short-term risks.</p> <p>C. Financial pressure: The sudden climate event may cause additional costs and losses to enterprises (i.e., facility repair and alternative supply chains), which may cause pressure on the financial position of enterprises.</p>
Short-term	<p>A. Business effects: Extreme weather events (i.e., heavy rains, floods or droughts) may directly affect the production, supply chain and logistics. For example, the supply chain interruption may lead to production stagnation, tight inventory or inability to deliver products in time.</p> <p>B. Strategic adjustment: Enterprises may need to adjust their strategies in response to climate change, including emergency response measures, diversification of the supply chain, and insurance coverage. This may result in additional costs, but it will help mitigate short-term risks.</p> <p>C. Financial pressure: The sudden climate event may cause additional costs and losses to enterprises (i.e., facility repair and alternative supply chains), which may cause pressure on the financial position of enterprises.</p>		

Item	Implementation status	
	Mid-term	<p>A. Strategic adjustment: Enterprises may review the impact of climate change on their business models and market positions in-depth and may adjust product portfolios, supply chain strategies, and market positions.</p> <p>B. Investment and innovation: As climate change intensifies, enterprises may increase their investment and innovation in sustainable development and green technology fields to meet market demand and future development trends.</p> <p>C. Financial planning: Enterprises may re-evaluate their financial planning, taking into account the long-term impact of climate risks, and adopt corresponding financial measures, such as insurance investments and risk management funds.</p>
	Long-term	<p>A. Market competition: The performance of enterprises in response to climate change may become an important factor in market competition, which has a deep impact on the brand image and market position of enterprises.</p> <p>B. Policy risk: The government may adopt more stringent environmental protection and climate policies and set higher standards for corporate management and environmental standards, and enterprises need to actively respond to policy risks.</p> <p>C. New business opportunities: Enterprises may also discover new business opportunities (i.e., renewable energy and carbon emission trading) from climate change, which will drive corporate innovation and business expansion.</p>
	<p>In summary, climate risks and opportunities have a multi-dimensional impact on enterprises, extending beyond short-term business and financial pressures. They necessitate adjustments and countermeasures in corporate strategy and long-term planning.</p>	
<p>3. Describe the impacts of extreme weather and transition actions on the finance of the Company.</p>	<p>The financial impacts of extreme weather events and transition actions on the company's IC design industry could be multifaceted. The following are some possible impacts:</p> <p>A. Disruption of production and supply chain interruption: Extreme weather events (i.e., typhoons, floods or heavy rains) may lead to</p>	

Item	Implementation status
	<p>damage to production facilities or the inability to operate. This may cause disruption of production and supply chain interruption, affecting the delivery of products and market supply. These interruptions may result in a decrease in income or even result in legal liabilities due to the inability to perform the contract.</p> <p>B. Asset losses and insurance: Extreme weather events may cause damage to or losses of the Company's assets, including production facilities, equipment, and raw materials. If the Company does not have appropriate insurance coverage, these losses may directly affect the financial position and may require the Company to bear significant repair costs or compensation responsibility.</p> <p>C. Market demand and supply chain risk: Transition actions may lead to changes in market demand (i.e., the government's implementation of more stringent environmental regulations), which may increase the demand for low-energy-consumption and low-emission products. If the Company cannot adapt to these changes, it may lose out on market opportunities and affect income and market share.</p> <p>D. Cost increases and operating efficiency: Transition acts may require the Company to increase investments in environmental protection technology and equipment to reduce the impact on the environment. This may increase the operating cost of the Company. If the Company cannot effectively improve its operating efficiency, it may lead to a decrease in profit margin.</p> <p>In conclusion, the financial impact of extreme weather events and transition actions on the Company's IC design industry may be in multiple aspects, and it may be necessary for the Company to continuously pay attention to laws and regulations, energy conservation and carbon reduction, and strengthening disaster prevention equipment to reduce the possible impact of the above risks.</p>
4. Describe how climate risk identification, assessment, and management processes are integrated	The Company will identify the climate-related risks that may affect the operation of the Company, such as business operations, supply chain, market demand, and regulatory changes. For example, the possible risks include the impact of climate change on raw material

Item	Implementation status
<p>into the overall risk management system.</p>	<p>supply, the impact of extreme weather on production and logistics, and changes in climate-related laws and regulations.</p> <p>Once the possible climate risks are identified, the Company shall assess the specific impact of such risks on the business and also consider the possible opportunities. This may include impacts on the Company's business model, financial position, and brand image. Climate-related risks are integrated into the overall risk management procedures to strengthen the risk monitoring and reporting system. Climate-related risk management is a process of continuous improvement. The Company shall constantly monitor and assess the effectiveness of its risk management measures and make adjustments and improvements based on the circumstances.</p>
<p>5. If scenario analysis is used to assess resilience in the face of climate change risks, the scenarios, parameters, assumptions, analysis factors, and main financial impacts used shall be described.</p>	<p>Scenario analysis is not used to assess resilience in the face of climate change risks at present, and the scenarios, parameters, assumptions, analysis factors, and main financial impacts used will be described if relevant analysis and assessment are implemented in the future.</p>
<p>6. If there is a transition plan in response to the management of climate-related risks, describe the content of the plan and the indicators and targets used to identify and manage physical risks and transition risks.</p>	<p>There is no transition plan in response to the management of climate-related risks at present, and the content of the plan and the indicators and targets used to identify and manage physical risks and transition risks will be described if relevant plans are implemented in the future.</p>
<p>7. If internal carbon pricing is used as a planning tool, the basis for setting the price shall be stated.</p>	<p>Currently, internal carbon pricing is not used as the planning tool, and the price formulation basis will be described if relevant planning tools are implemented in the future.</p>
<p>8. If climate-related targets are set, the activities covered, the scope of GHG emissions, the planned</p>	<p>A. There is no concrete climate-related target at present, and the activities covered, GHG emission scope, planned schedule, and achievements annually will be described if relevant targets are implemented in the future.</p>

Item	Implementation status
<p>schedule, and the progress of each year shall be described; if carbon offsets or renewable energy certificates (RECs) are used to achieve the targets, the source and amount of the carbon offsets or the amount of the RECs shall be described.</p>	<p>B. Currently, the Company has not used the carbon credit or renewable energy certificate (RECs) to achieve the relevant targets, and the source and quantity of the carbon reduction limit and quantity or the number of RECs will be described if they are implemented in the future.</p>
<p>9. Status of GHG inventory and assurance, as well as GHG reduction targets, strategies, and specific action plans.</p>	<p>The data for 2024 represents our initial statistical calculations and has not yet been verified by a third party. Please refer to 3.4, Energy and Emissions in this report for relevant disclosures. As a TPEX listed Company with paid-in capital below NT\$5 billion, we have not yet met the statutory timeline for assurance. We will plan and execute assurance procedures in accordance with the FSC's "Sustainable Development Roadmap for TWSE/TPEX Listed Companies" in the future.</p>