Alliance for Water Stewardship Audit Report

Prepared for Unimicron Technology Corp.

Single site certification
Site: Unimicron Technology Corp.

Prepared by: SGS
SGS Ref.: TW/TPE
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REPORT DETAILS

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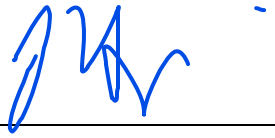
TECHNICAL SIGNATORY	Francesca Cerchia Signed: 
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1 EXECUTIVE SUMMARY

The scope of services covers the conformity assessment of water use in compliance with the AWS International Water Stewardship Standard (Version 2.0) for Unimicron Technology Corp. Shanying Plant Area (hereinafter referred to as “Unimicron Shanying Plant Area” or “the site”), located at No.179, Shanying Road, Guishan Ind. Park, Taoyuan City, Taiwan (R.O.C.).

The assessment has been completed in compliance with the AWS Certification requirements, Version 2.0 dated Mar. 2019.

Unimicron, a subsidiary of United Microelectronics Corporation, started in 1990. The site started operation on 25th January 1990. The company mainly engaged in the development, manufacture, processing and sale of printed circuit boards (PCBs), high density interconnect printed circuit boards (HDIPCBs), flexible printed circuits ((FPC), rigid-flex PCBs and carriers, as well as integrated circuits (IC) testing system products. The PCB products are used in major components of computers, communication products and consumer electronic products. The IC testing system products are used in the testing of IC products. The Company distributes its products within the domestic market and to overseas markets, including Asia, the Americas and others.

On 28th September, 2020, SGS Taiwan Ltd. (hereinafter referred to as “SGS”) conducted the on-site conformity assessment for Unimicron Shanying Plant’s facilities and activities with regard to certification to the AWS Standard (Version 2.0). A total of six findings were raised during the course of the audit process and they were all categorized as minor non-conformities.

Unimicron Shanying Plant Area responded to the findings raised with root cause analysis and action plans. Our review confirmed that all corrective action plans are acceptable.

Given the review of evidence provided and the site visit performed at Unimicron Shanying Plant Area, SGS recommends that Unimicron Shanying Plant Area be awarded the AWS Platinum Certified status with a surveillance audit interval of annual frequency.

1.1.1 SCOPE OF ASSESSMENT

The scope of services covers the conformity assessment of water use in compliance with the AWS International Water Stewardship Standard (Version 2.0) for Unimicron Technology Corp. Shanying Plant Area Area, located at No.179, Shanying Road, Guishan Ind. Park, Taoyuan City, Taiwan (R.O.C.). The site located 4 manufacture plants under Unimicron. There are Shanying Plant, Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant. Due to the water supply and wastewater treatment & discharge are supported each other, the conformity assessment covers those four plants and stated as Shanying Plant Area (hereinafter referred to as “Unimicron Shanying Plant Area” or “the site”). The assessment has been completed in compliance with the AWS Certification requirements, Version 2.0 dated Mar. 2019.

A pre-assessment for Unimicron Shanying Plant’s facilities and activities with regard to certification to the AWS Standard (Version 2.0) was performed by Eric Huang, the AWS approved auditor from SGS Taiwan Ltd. (hereinafter referred to as “SGS”) on 8th and 10th September 2020. During the pre-assessment, SGS conducted an on-site audit that covered water supply facilities, electroplating workshop, chemical warehouse, waste storage, wastewater treatment facilities, online monitoring devices installed for treated effluent, employees’ canteen and dormitories, personnel interviews and document reviews. A total of 47 findings were raised during the pre-assessment process. Unimicron Shanying Plant responded that corrective actions will be taken to successfully close all findings raised at pre-assessment stage and before commencement of conformity assessment.

On 28th September 2020, SGS conducted the conformity assessment on-site visit of Unimicron Shanying Plant’s facilities and activities with regard to certification to the AWS Standard (Version 2.0). Table 1.1 includes details on SGS audit team. The audit plan is attached as a separate document.

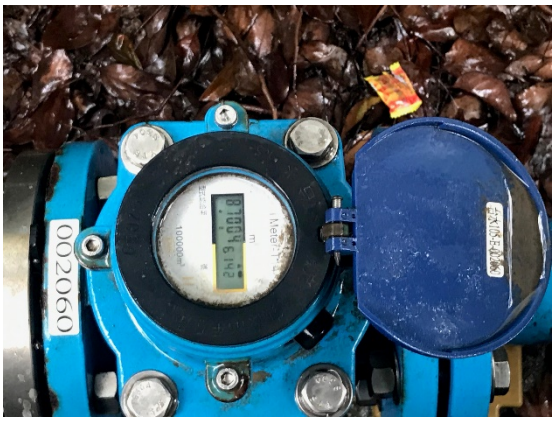
Table 1.1 SGS Audit Team

Audit Team		Qualifications/Experience
Kyle LU	Team Leader	AWS certified auditors have more than 20 years of experience in environmental management, wastewater and industrial waste reduction treatment and construction, and have participated in ISO 14001, ISO 14064, ISO 14046, ISO 14067 and other standards verification experience for about 10 years.
Eric HUANG	Auditor	AWS certified auditor with 31 years environmental engineering and management experiences in audit, consulting, engineering and operation, and specialising in energy and climate change. Mr. Huang has conducted numerous of river basins pollution management, energy management system audit, Corporate Social Responsibility (CSR)/ Sustainability Report Assurance, ISO 14064-1 Greenhouse Gas verifcation audit, energy & climate change consulting/ audit, waste management, waste treatment/ recycling, site remediation, site decontamination, vibration measurement, industrial service projects.
Vanessa CHEN	Auditor	AWS certified auditor. Vanessa is also a qualified auditor of ISO 14064, ISO 14067, ISO 14001, ISO 14046 and CSR. In the environmental management and sustainable field, Vanessa is not only an auditor now, but she was also a consultant with more than ten years of experience, taking in charge of industrial system management such as ISO 14064, ISO 14067, CSR, ISO 20121 and so on.

During the conformity assessment, three SGS auditors splited into A, B, C three teams and spent 1.0 days inspecting Unimicron Shanying Plant's installations and reviewing activities and documents. Inteviews with personnel were also carried out.

Unimicron Shanying Plant Area provided most of the requested supporting documentation as evidence whilst on site. SGS provided initial feedback on the gaps between Unimicron Shanying Plant's current management and the level required by the standard during the closing meeting of the conformity assessment on 28th September 2020. Figure 1.1 includes pictures taken while on-site.

Tap Water Meter(1)



Tap Water Meter(2)

Well Water Digital Meter

PCB-1& PCB-2 Tap Water Meter

T2A-1 Tap Water Meter

T2A-2 Tap Water Meter

Figure 1.1 Photos from Unimicron Shanying Plant Site Assessment

RD Tap Water Meter

Sui Feng Tap Water Meter

Wastewater Treatment Tank

Circulating Water Treatment Facility

Waste Water Outlet

Online Monitoring Equipment for Wastewater Treatment Plant

Figure 1.1 Photos from Unimicron Shanying Plant Site Assessment (Continue)

Central Supply Zone

Central Chemical Potion Storage Tank

Ecological Pool

Dormitory Drinking Water Equipment

Restaurant Wash Zone

Stakeholder Meeting

Figure 1.1 Photos from Unimicron Shanying Plant Site Assessment (Continue)

Supplier Water Resources Training

Water Management Discussion Meeting

Figure 1.1 Photos from Unimicron Shanying Plant Site Assessment (Continue)

2 STAKEHOLDER ANNOUNCEMENT AND CONCLUAION

Following the AWS Certification Requirements, before the on-site conformity assessment, SGS prepared a stakeholder announcement on 7th August 2020, which stated Unimicron Shanying Plant's intention to pursue AWS certification. Besides submitting to AWS for publication on the AWS website, the stakeholder announcement was also posted on the information disclosure bulletin board at security both of Shanying Plant's gate and displayed on Unimicron 's website as below weblink, respectively.

https://www.unimicron.com/csr/ch/index.html

In addition, the stakeholder announcement was also displayed on SGS' website and SGS Facebook:

- ✧ SGS Taiwan Webpage：https://www.sgs.com.tw/news-media-resources-content/page/2?id=55
- ✧ SGS Certification FB：https://www.facebook.com/notes/sgs-certification-taiwan/alliance-for-water-stewardship-audit-call-for-stakeholders-input-%E5%9C%8B%E9%9A%9B%E5%8F%AF%E6%8C%81%E7%BA%8C%E6%B0%B4%E7%AE%A1%E7%90%86%E6%A8%99%E6%BA%96%E7%A8%BD%E6%A0%B8-%E5%88%A9%E5%AE%B3/2692158171069906/

However, SGS didn't received any feedback information since the release of the stakeholder announcement.

Figure 2.1 Information Disclosure Bulletin Board at Shanying Plant’s gate

During the pre-assessment, SGS held a stakeholder consultation meeting on 10th September 2020. Table 2.1 presents the personnel interviewed.

Table 2.1 Personnel Interview of Stakeholder Consultation

Organization		Personnel Interview
Guishan Industrial Zone Management Center	Government authorities	Mr. HUANG
Guishan Service Station, Second District, Taiwan Water Corporation		Mr. TU
Group UP Industrial Co. Ltd.	Supplier	Mr. PENG
Chung Yu Industry Corporation		Mr. QU
Hitachi Chemical Co., Ltd.		Mr. HUANG
TPCA Environment Foundation	NPO	Ms. CHEN
Guishan Mountain Village Head	Residents	Mr. HUANG
Unimicron CEO Office Sustainability Taskforce Team	Employee	Mr. CHEN
Unimicron Administration Dept.		Mr. LU
Unimicron Facility Dept.		Ms. WANG

The stakeholder consulting meeting was held in a Unimicron Shanying Plant's conference room in the afternoon of 10 September 20. Due to COVID-19 Pandemic, some of stakeholders were interviewed through telephone. All stakeholder gave a high appraisal to Unimicron's efforts for its water stewardship.

According to Mr. Lantern HUANG from Guishan Industrial Zone Management Center, Unimicron Shanying Plant in Guishan Industrial Zone is able to comply with laws and regulations and has excellent performance in terms of wastewater treatement, discharge and environmental protection management. It actively cooperates and supports the implementation of activities and seminars in the industrial zone. The two parties also have good interaction and multi-party communication channels in the exchange of opinions.

In addition, Jiqi TU from Guishan Service Station, Second District, Taiwan Water Corporation also indicated Unimicron Shanying Plant actively manages the use of tap water, and has excellent cooperation with the Taiwan Water Corporation in water supply scheduling. Both parties also have good interactions in communication and coordination, and also cooperate with the Taiwan Water Corporation to promote water conservation in the plant.

The supplier Yizhao PENG of Group UP Industrial Co. Ltd. express they are pay attention to whether Unimicron will be interrupted by water shortage/flooding due to extreme weather. This impact may cause delays in the installation schedule of equipment and increase installation costs. This factor has not yet been affected. Another supplier Li-Yu QU of Chung Yu Industry Corporation are concerning whether Unimicron has caused water shortage/flooding due to extreme weather, and violated environmental protection laws and caused production interruption. This interruption of production will result in a reduction in material demand, which in turn will result in a decrease in the revenue of their company. Supplier Baojuan HUANG of Hitachi Chemical Co., Ltd. mentioned they have more attention paid to the factors that may cause the interruption of Unimicron ' production. This effect will reduce the demand for raw materials, which in turn will result in reduced revenue and increased costs to them.

Mr. Shouan CHEN of TPCA Environment Foundation is foacus on the compliance status of Unimicron in water intake/wastewater discharge, and whether it will cause ecological impact on the natural water environment. Unimicron is also committed to the promotion of environmental protection education, and cooperates with the printed

circuit board environmental public welfare foundation TPCF to carry out environmental education and promotion of ECO talents, and invests manpower and material resources into the campus to take the environmental protection concept down. The both parties also have good interaction in cooperation.

The neigborhood to Unimicron Shanying Plant Mr. Chengke HUANG, the head of Guishan Mountain Village, also indicated the staff of Unimicron is communicate with the neighbors to understand that the current factory operation has not caused any impact on the surrounding environment. The walled sidewalk is also regularly provided with personnel to assist in cleaning and maintenance.

Besides above external stakeholders, the internal stakeholders also were interview. Yi CHEN from CEO Office Sustainability Taskforce Team is care about the degree of compliance with water-related laws and regulations (water intake/wastewater discharge), and more attention to whether the environment causes ecological impact, this impact will have a significant impact on the company’s operations and external image. Ms. Jiayu LU of Administration Dept. concerned about the issues of operation interruption caused by water shortage and insufficient domestic water consumption for employees. At present, the company has not had any complaints about insufficient water consumption caused by lack of water, and the quantity and quality of water for people's livelihood can meet the demand. I am more concerned about whether the company will interrupt its operations due to extreme weather and lack of water and worry about the impact on employees’ income and livelihoods, but this incident has not yet occurred. Yi Lin WANG of Facility Dept. is more concerned about whether the company will interrupt site operations due to extreme weather and lack of water and worry about the impact on employees’ income and livelihoods, but this incident has not yet occurred.

3 DESCRIPTION OF CATCHMENT

The Shimen Reservoir, the source of water supply, is one of the main reservoirs in northern Taiwan. It is located in the Shimen Canyon between Daxi District, Longtan District, Fuxing District, Taoyuan City, and Guanxi Town, Hsinchu County. It is the first multi-functional reservoir in Taiwan, which is formed by impounding water from the Dahan River. The daily average water supply volume regulated and stored by the reservoir is about 2.5 million cubic meters. If the total downstream uncontrolled flow and the Sanxia River pumping station are combined, the total water supply can reach up to 3 million cubic meters. It is mainly supplied the water to New Taipei City, Taoyuan City and Hsinchu County Hukou Township for public use.

The main water source of Unimicron Shanying Plant is tap water, followed by well water and rainwater. The tap water source is treated and supplied by the Dayan Water Purification Plant managed by the Second District Management Office of Taiwan Water Corporation. The front-end water source of Dayan Water Purification Plant comes from Shimen Reservoir. The water is taken from Houchi Weir and sent to Dayan Water Purification Plant for treatment and supply by Taoyuan Cannal.

The wastewater discharged from the Shanying Plant is treated by wastewater facilities and confirmed to meet the effluent water standards before being discharged into Dongmen Creek and finally into final receiving water body Nankan Stream. As for Nankan Stream, the stream has a total length of 30.73 kilometers and a drainage area of approximately 214.6 square kilometers. It flows through Luzhu District, Dayuan District, Taoyuan District, Guishan District, and Hekou is located at Zhuwei Fishing Port.

The following Figure 3.1 shows the water bodies within catchment respect to Shanying Plant, including the source of water supply Shimen Reservoir, the tap water source Dayan Water Purification Plant, the wastewater discharged point Dongmen Creek and ultimate receiving water body Nankan Stream.

Figure 3.1 water bodies within catchment

The following Figure 3.2 show the route from Shanying Plant wastewater effluent point to downstream Dongmen Creek. All the water is flow through the underground pipe to Dongmen Creek. Figure 3.3 show ultimate receiving water body Nankan Stream boundary.

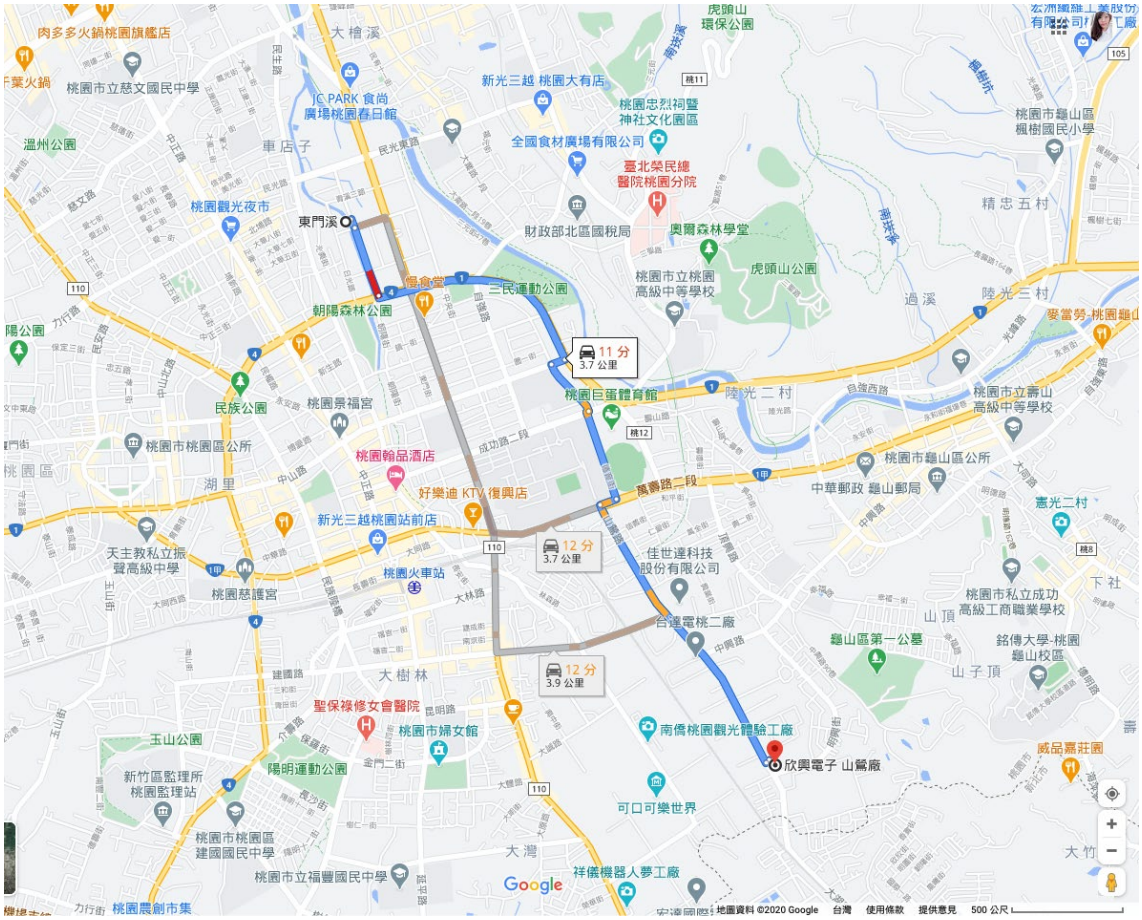


Figure 3.2 The effluent water discharge route from Shanying Plant to Dongmen Creek

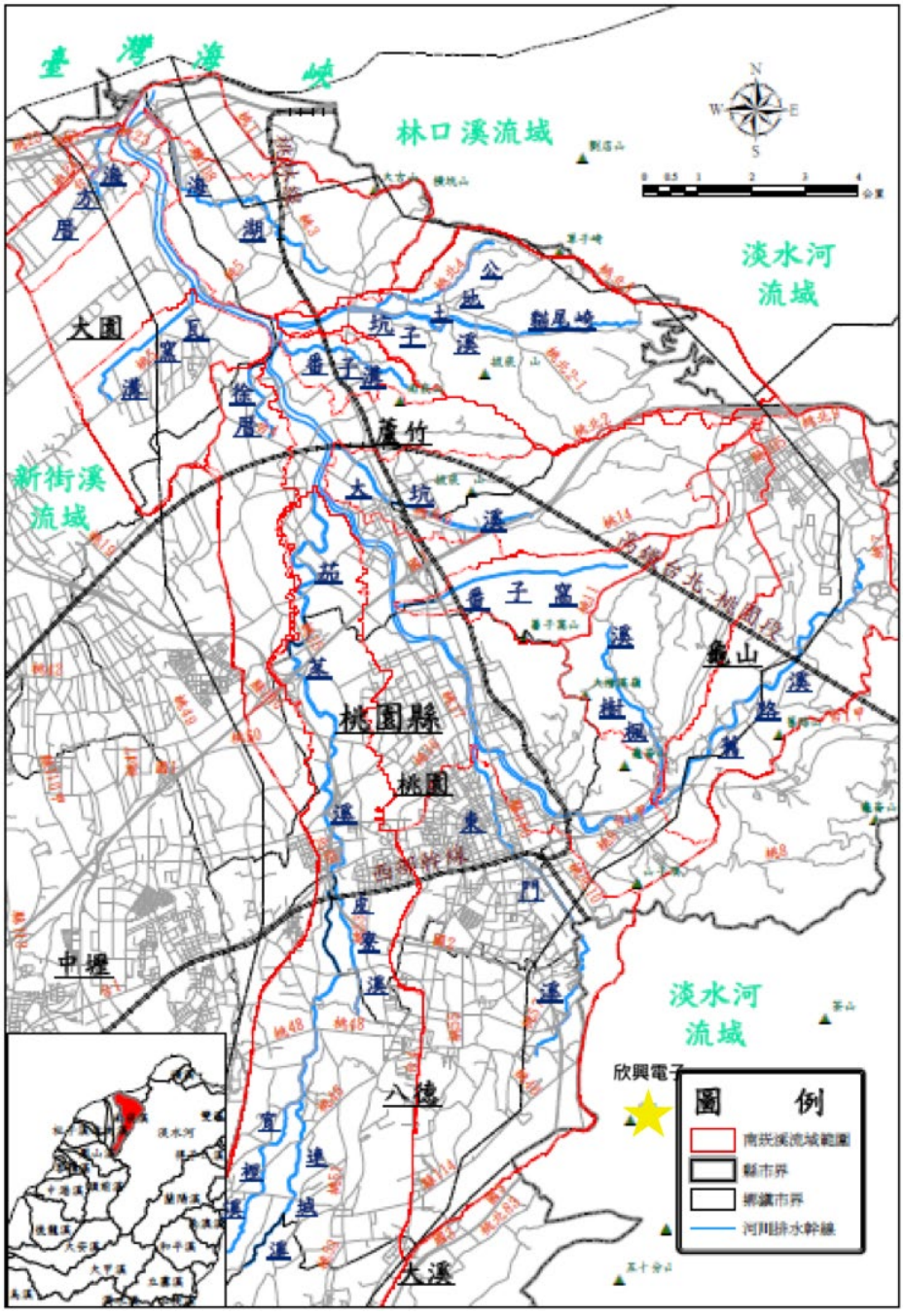


Figure 3.3 Ultimate receiving water body Nankan Stream watershed

Within Shanying Plant, Figure 3.4 show the conformity assessment boundary depicted in red line. Figure 3.5 show seven tap water inlet points, eight wells location and two wastewater discharge points and rain fall discharge points. The wastewater produced from Shanying Plant, Jingtzai 1st Plant and Jingtzai 3rd Plant are treated by their own

wastewater treatment plant (WWTP) and then collected by Jingtzai 3rd Plant Biological Center before effluent. Jingtzai 2nd Plant wastewater is treated by Jingtzai 2nd Plant WWTP and pump to Jingtzai 2nd Plant Biological Center before effluent. Figure 4.5 also show the wastewater collection lines.

Figure 3.4 The conformity assessment boundary

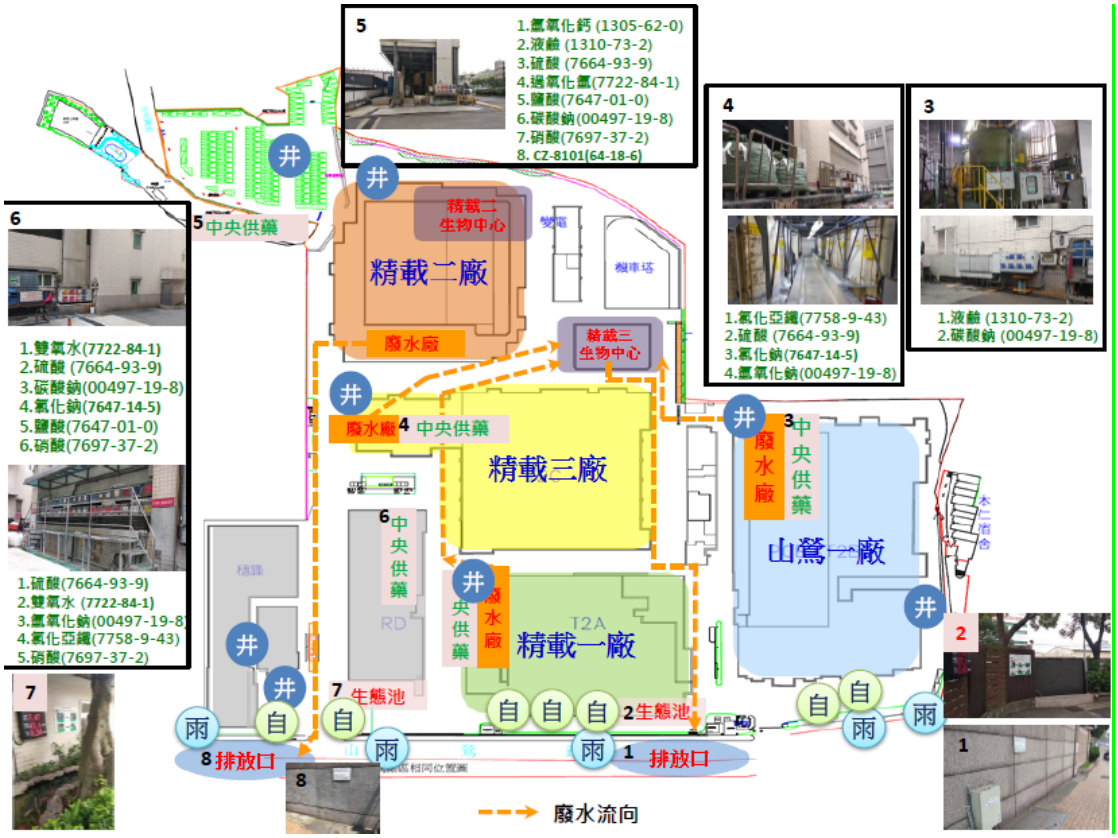


Figure 3.5 The tap water inlet points, wells location and wastewater discharge points

4 SUMMARY OF SHARED WATER CHALLENGES

Unimicron Shanying Plant has identified general shared challenges in the catchment and these are listed in Table 4.1.

Table 4.1.Detailed Shared Water Challenges for Unimicron Shanying Plant

No	Water challenge	Associated public-sector agency initiative	Relevance / rationale for stakeholders	Relevance / rational for site	Priority(High 1-4 Low)	Rational for prioritization
01	The ecological impact of the Company on the natural water environment.	1. River basin comprehensive management 2. River and creek desilting and environmental management 3. Improve water quality and create a hydrophilic environment	High	High	1	(1) The first-stage ranking principle: The conversion components are ranked from high to low according to the concerns of various stakeholders in the watershed. (2) Stakeholders' attention to water environment challenges are scored and summed up, and then the total average value of each issue is used to judge the degree of impact.
02	The operation interruption of the Company caused by water shortage due to extreme climate (flood/ drought).	Improve disaster prevention capacity	High	High	1	
03	The interruption of raw material supply of	Water recycling center proper operation	High	High	1	

No	Water challenge	Associated public-sector agency initiative	Relevance / rationale for stakeholders	Relevance / rational for site	Priority(High 1-4 Low)	Rational for prioritization
	the Company caused by insufficient water resources in the supply chain.					(3) The degree of attention bring to the water environment challenge by the site management is summed up, and then the total average value of each issue is used to judge the degree of influence. (4) Finally, prioritize the rank ing according to the following principles: • Priority 1: High impact on stakehoders /high impact on the site. • Priority 2: Low impact on stakehoders /high impact on site. • Priority 3: High impact on stakehoders /low impact on site. • Priority 4: Low impact on stakehoders /low impact on site
04	The Company's compliance with water related regulations (wastewater discharge).	Sewage pipeline inspection and maintenance	High	High	1	
05	The Company's compliance with water related regulations (water withdrawal).		Low	High	2	
06	Whether the Company reclaims water and reuses the reclaimed water?	Water recycling center proper operation	Low	High	2	
07	The changes in operating costs of the Company caused by the water costs changes?		Low	High	2	
08	The operation interruption of the Company caused by floods due to extreme climate?	Improve disaster prevention capacity	High	Low	3	

No	Water challenge	Associated public-sector agency initiative	Relevance / rationale for stakeholders	Relevance / rational for site	Priority(High 1-4 Low)	Rational for prioritization
09	The impact of the Company's water withdrawal on water supply?		Low	Low	4	
10	Whether the suppliers have participated in and implemented water management plans to record, classify and monitor the use and discharge of water resources; whether they seek opportunities to save water; whether they control pollution discharge?		Low	Low	4	
11	The changes in operating costs of the Company caused by the water costs changes.		Low	Low	4	

5 INDICATORS CHECKLIST

5.1 CORE AWS INDICATORS

As per the requirement set out in the Section 2.11.3.1 of the AWS Certification Requirements, the following table 6.1 presents all the CORE AWS indicators with the relevant reviewed evidence provided by Unimicron Shanying Plant.

Table 5.1 Gaps and Potential Areas for Improvement Against the CORE AWS Indicators

Indicator	Details (Core)	Evidence Reviewed/Document Reference
1	Gather and Understand (core)	
1.1	Gather information to define the site's physical scope for water stewardship purposes, including: its operational boundaries; the water sources from which the site draws; the locations to which the site returns its discharges; and the catchment(s) that the site affect(s) and upon which it is reliant.	
1.1.1	The physical scope of the site shall be mapped, considering the regulatory landscape and zone of stakeholder interests, including: - Site boundaries; - Water-related infrastructure, including piping network, owned or managed by the site or its parent organization; - Any water sources providing water to the site that are owned or managed by the site or its parent organization; - Water service provider (if applicable) and its ultimate water source;	Maps showing the physical scope of the site are available, including: Unimicron Technology Corp. Shanying Plant Area, located at No.179, Shanying Road, Guishan Ind. Park, Taoyuan City, Taiwan (R.O.C.). The site located 4 manufacture plants under Unimicron. There are Shanying Plant, Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant. Due to the water supply and wastewater treatment & discharge are supported each other, the conformity assessment covers those four plants and stated as Shanying Plant (hereinafter referred to as "Unimicron Shanying Plant" or "the site"). The main water source of Unimicron Shanying Plant is tap water, followed by well water and rainwater. The tap water source is treated and supplied by the Dayan Water Purification Plant managed by the Second District Management Office of Taiwan Water Corporation. The front-end water

Indicator	Details (Core)	Evidence Reviewed/Document Reference
	- Discharge points and waste water service provider (if applicable) and ultimate receiving water body or bodies; - Catchment(s) that the site affect(s) and is reliant upon for water.	source of Dayan Water Purification Plant comes from Shimen Reservoir. The water is taken from Houchi Weir and sent to Dayan Water Purification Plant for treatment and supply by Taoyuan Canal. The Shimen Reservoir, the source of water supply, is one of the main reservoirs in northern Taiwan. The daily average water supply volume regulated and stored by the reservoir is about 2.5 million cubic meters. It is mainly supplied the water to New Taipei City, Taoyuan City and Hsinchu County Hukou Township for public use. The wastewater discharged from the Shanying Plant is treated by wastewater facilities and confirmed to meet the effluent water standards before being discharged into Dongmen Creek and finally into final receiving water body Nankan Stream. As for Nankan Stream, the stream has a total length of 30.73 kilometers and a drainage area of approximately 214.6 square kilometers. It flows through Luzhu District, Dayuan District, Taoyuan District, Guishan District, and Hekou is located at Zhuwei Fishing Port. Shanying Plant has seven tap water inlet points, eight wells location and two wastewater discharge points and rain fall discharge points. The wastewater produced from Shanying Plant, Jingtzai 1st Plant and Jingtzai 3rd Plant are treated by their own wastewater treatment plant (WWTP) and then collected by Jingtzai 3rd Plant Biological Center before effluent. Jingtzai 2nd Plant wastewater is treated by Jingtzai 2nd Plant WWTP and pump to Jingtzai 2nd Plant Biological Center before effluent ***REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron*** ***REF002: Water-related infrastructure List***
1.2	Understand relevant stakeholders, their water-related challenges, and the site's ability to influence beyond its boundaries.	

Indicator	Details (Core)	Evidence Reviewed/Document Reference
1.2.1	Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall: - Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people; - Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies; - Provide evidence of stakeholder consultation on water-related interests and challenges; - Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups; - Identify the degree of stakeholder engagement based on their level of interest and influence.	The stakeholders of Unimicron Shanying Plant include NGOs (Non-Governmental Organizations), corporate customers, suppliers/contractors (equipment, raw materials, labour services), residents of nearby communities, government/competent agencies, employees, academic units, etc. Regarding issues related to water resources and water environment, Unimicron Shanying Plant communicated with stakeholders through questionnaires to understand their expectations and needs for Unimicron Shanying Plant, and integrated stakeholder analysis to promote Unimicron Shanying Plant sustainable water management planning in the plant. The questionnaire has 11 questions, there are: • Are you concerned about operation interruption of the Company caused by water shortage due to extreme climate (flood/ drought)? • Are you concerned about the impact of the Company's water withdrawal on water supply? • Are you concerned about operation interruption of the Company caused by floods due to extreme climate? • Are you concerned about the changes in operating costs of the Company caused by the water costs changes? • Are you concerned about the changes in operating costs of the Company caused by the wastewater treatment costs changes? • Are you concerned about the interruption of raw material supply of the • Are you concerned about the Company's compliance with water related regulations (water withdrawal)? • Are you concerned about operation interruption of the Company caused by water shortage due to extreme climate (flood/ drought)? Company caused by insufficient water resources in the supply chain? • Are you concerned about the ecological impact of the Company on the natural water environment?

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		• Are you concerned about whether our suppliers have participated in and implemented water management plans to record, classify and monitor the use and discharge of water resources; whether they seek opportunities to save water; whether they control pollution discharge? • Are you concerned about whether the Company reclaims water and reuses the reclaimed water? The total number of sent out questionnaires was 429. Total 429 questionnaires were collected. There are 2 NGO representatives, 54 representatives of suppliers and contractors, 4 nearby communities' resident representatives, 38 representatives of government agencies, 1 nearby factory, 328 employee representatives and 2 academics representatives. The stakeholders' questionnaire response had been reviewed. The statistics of various stakeholders' questionnaire response had been reviewed and stated in The degree of attention to water challenges are shown in Table 5.1 in section 5. During the stakeholders identification process, Unimicron Shanying Plant found out there are no vulnerable, women, minority, and Indigenous people within the site' catchment. The site's ultimate water source and ultimate receiving water body stakeholders are Taiwan Water Corp. The company already expressed their opinion. ***REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron*** ***REF003 Stakeholders Questionnaire Analysis Report***
1.2.2	Current and potential degree of influence between site and stakeholder shall be identified, within the catchment and	Unimicron's wastewater is treated in the plant and discharged to the surface water body. The final receiving water body is Nankan Steam.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
	considering the site's ultimate water source and ultimate receiving water body for wastewater.	According to the national environmental water quality monitoring data of the Environmental Protection Department of the Executive Yuan, The detection point of Dahui River Bridge is closest to the location where Unimicron's wastewater discharges into Nankan Steam. Therefore, the data of this sampling point is compared with the water quality analysis report of Unimicron's wastewater discharge. Among the analysis items, the content of specific substances in the wastewater discharged by Unimicron is mostly lower than the stream data. (15 common items, 6 lower than the river detection limitation). In order to achieve effective communication with stakeholders, a systematic analysis framework based on four steps is established to determine major issues related to water resources and the environment, the boundaries of data collection, and stakeholders. (1) Identify the types of stakeholders (2) Collect water resources and water environment related topics (3) Survey 429 stakeholders through questionnaires (4) Measuring the impact of stakeholders Unimicron apply the stakeholder influence and participation model to classifies all stakeholders and classifies them according to their influence on the site and the site's influence on stakeholders. The degree of attention to water challenges are shown in Table 5.1 in section 5. ***REF004: Water quality analysis report*** ***REF005: Analysis of the influence and participation of stakeholders*** ***REF006: Stakeholders' influence and participation model***
1.3	Gather water-related data for the site, including: water balance; water quality, Important Water-Related Areas, water governance, WASH; water-related costs, revenues, and shared value creation.	
1.3.1	Existing water-related incident response plans shall be identified.	Uinmicron has established a management procedure (EA42-014 Emergency Response Operation Specification for Water Shutoff, EA13-

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		001 Environmental Emergency Response Management Operation Procedure) based on water shortages and abnormal conditions caused by water environment pollution. When a situation occurs, the company's water resource scheduling, management, production, and manufacturing have clear management items and have a basis to follow. In order to enable the company to properly and appropriately handle natural disasters (typhoons, earthquakes, and floods), to ensure the continuous provision of customer service products that meet the quality requirements and minimize the adverse impact of personnel, EA53-005 Explosion/Chemical substance leakage/Natural disaster emergency response procedures is established, so that they can be followed. ***REF007: EA42-014 Emergency Response Operation Specification for Water Shutoff*** ***REF008: EA13-001 Environmental Emergency Response Management Operation Procedure***
1.3.2	Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped.	A volumetric balance of water input and output is identified and mapped by Unimicron Shanying Plant. • Y2019 Water input= 7,687,993 • Evaporation= 347,700 • Output=7,340,233 (m3/ year) ***REF009: Water Balance Map in 2019.***
1.3.3	Site water balance, inflows, losses, storage, and outflows, including indication of annual variance in water usage rates, shall be quantified. Where there is a water-related challenge that would be a threat to good water balance for people or environment, an	A volumetric balance of water input and output is identified and mapped by Unimicron Shanying Plant. Shanying Plant, Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant's. ***REF010: Y2019 water consumption fluctuation chart***

Indicator	Details (Core)	Evidence Reviewed/Document Reference
	indication of annual high and low variances shall be quantified.	
1.3.4	Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.	Water supply: The fresh water sources in the plant are tap water and well water. The quality of tap water is based on the water quality analysis results of Dayan Water Purification Plant; For well water, Unimicron samples part of the water source before provide to the treatment system once per quarter. The water qualify analysis is commissioned by the in-plant laboratory to analysis to understand changes in water quality. • Wastewater: According to regulations, outsourced the certified every quarter. The analysis results are announced to the public. The wastewater produced from Shanying Plant, Jingtzai 1st Plant and Jingtzai 3rd Plant are treated by their own wastewater treatment plant (WWTP) and then collected by Jingtzai 3rd Plant Biological Center before effluent. Jingtzai 2nd Plant wastewater is treated by Jingtzai 2nd Plant WWTP and pump to Jingtzai 2nd Plant Biological Cent er before effluent https://www.unimicron.com/files/csr/EnvironmentaEmissions/Shanying.pdf • Receiving wate body: The wastewater discharged from the Shanying Plant is treated by wastewater facilities and confirmed to meet the effluent water standards before being discharged into Dongmen Creek. Unimicron samples the river water of Dongmen Creek once per season, and commissions the in-plant laboratory to conduct testing to understand the impact of Unimicron's wastewater discharge on the river. Unimicron has monitored the effluent water qualify and confirm the discharge wastewater meets regulatory standards. ***REF004: Water quality analysis report*** ***REF011: Y2019 Jingtzai 3rd Plant WWTP and Jingtzai 2nd Plant WWTP effluent water qualify analysis report.***

Indicator	Details (Core)	Evidence Reviewed/Document Reference
1.3.5	Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.	The printed circuit board manufacturing industry uses a lot of water, electricity and chemicals in the manufacturing process. Unimicron stipulates that the bulk chemical liquid inlet and outlet must be acid-base sorted to avoid the mixed storage of chemical liquids causing acid-base reactions. The drug canning area also has drug recycling related equipment to prevent liquid chemical leakage from contaminating the ground; the liquid chemical storage area is equipped with dike, and the tank is equipped with a high level signal and the filling operation area control power supply linkage. Unimicron has a gate at the end of the rainwater channel, which is closed on weekdays/opened on rainy days. When the rainwater channel has abnormal water volume or water quality analysis results, the water is pumped back to the wastewater plant for treatment and can be discharged after it meets the discharge water standard. Unimicron as mapped the identified potential sources of pollution. ***REF012: Chemical storage area and WWTP*** ***ERF013: On-site IWRA***
1.3.6	On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.	On-site Important Water-Related Areas are "Well water supply point", "Central chemical storage area", "Wastewater Treatment Plant", "Biological center". Unimicron has mapped the On-site Important Water-Related Areas. ***ERF013: On-site IWRA***
1.3.7	Annual water-related costs, revenues, and a description or quantification of the social, cultural, environmental, or economic water-related value generated by the site shall be	According to statistics on water-related costs in 2019, the total cost expenditure is NT$ 91,831,980. The cost separated as water-related costs NT$ 41,650,789 and wastewater treatment-related costs NT$ 50,181,191. However, no any water related revenue in 2019.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
	identified and used to inform the evaluation of the plan in 4.1.2.	Meanwhile, Unimicron held below social and environmental water-related activities: 1. Water environment education: the company-wide road running activities and environmental promotion at Shimen Reservoir, the cost is about NT$ 200,000. 2. Hulk Volunteer Club: An association formed by the company's colleagues. In 2019, the cost of beach cleaning activities and related environmental education is about NT$40,000. ***ERF013: Manufacturing cost schedule_Water cost*** ***REF014: Social and environmental water-related activities cost***
1.3.8	Levels of access and adequacy of WASH at the site shall be identified.	There are "men's and women's toilets" on each floor of the factory. The "men's toilets" of the whole factory have a total of 150 urinals, 71 squatting toilets, and 69 sitting toilets; the whole factory "women's toilets" has a total of 163 squatting toilets and 54 sitting toilets. Comparing the building legal requirements, the number is compliance. The total number of drinking fountains in the factory is 112, which come from 24 in the PCB factory, 28 in the Jingtzai 1st Plant, 23 in the Jingtzai 2nd Plant, and 37 in the Jingtzai 3rd Plant. The drinking water in the factory is safe and meets the requirements of drinking water laws and regulations. All drinking water drinking fountains in the factory are regularly disinfected. It is outsourced to conduct water quality analysis. ***REF015: Evaluating Access to Water, Sanitation and Hygiene (WASH) at the Workplace*** ***REF016: WASH inventory Data*** ***REF017: Building legal requirements***

Indicator	Details (Core)	Evidence Reviewed/Document Reference
1.4	Gather data on the site's indirect water use, including: its primary inputs; the water use embedded in the production of those primary inputs the status of the waters at the origin of the inputs (where they can be identified); and water used in out-sourced water-related services.	
1.4.1	The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.	The main raw materials are divided into 1. Substrate 2. Gold salt 3. Film 4. Chemical material. Each plant is classified according to cost center and the four main raw materials are sorted according to the amount and category received. Each category screens out the five material numbers with the highest amount received and establishes a list of main raw materials based on this. In the past five years, there has been no water shortage in the Nankan stream basin. Unimicron identify the risk level based on water consumption and pollutant discharge, the water consumption of chemical materials (material number: B40220B10) is highest. So it is defined as a high-risk raw material. ***REF018: Water consumption and wastewater quality related to each main raw material***
1.4.2	The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.	The site's outsourcing services include security (access control management), cleaning (cleaning of the environment in the plant), group meals (feeding in the plant), computer maintenance and cleaning of clean clothes. The water consumption of cleaning of clean clothes is the highest. Two clean clothes cleaning companies have annual water consumption of 2,160 tons and 30,240 tons, respectively. The annual number of laundry items are 950,000 and 1,440,000. Therefore, the water consumption per unit is. It is 0.002 tons/piece and 0.021 tons/piece. The in-direct water consumption is 47 tons and 1,808 tons. ***REF019: Outsourcing services- cleaning of clean clothes data***

Indicator	Details (Core)	Evidence Reviewed/Document Reference
1.5	Gather water-related data for the catchment, including: water governance, water balance, water quality, Important Water-Related Areas, infrastructure, and WASH	
1.5.1	Water governance initiatives shall be identified, including catchment plan(s), water-related public policies, major publicly-led initiatives under way, and relevant goals to help inform site of possible opportunities for water stewardship collective action.	The Nankan Stream Basin in Taoyuan City is mainly under the jurisdiction of the following laws, regulations, policies and government departments. • At the national level: Water Resources Department, Ministry of Economic Affairs; North District Water Resources Bureau, Water Resources Department, Ministry of Economic Affairs; Second River Bureau, Water Resources Department, Ministry of Economic Affairs. • Municipal level: Taoyuan City Government Environmental Protection Bureau. • Industrial Park level: Guishan Industrial Zone, Bureau of Industry, Ministry of Economic Affairs. Taoyuan City's Nankan stream Basin wastewater copper discharge total control project: •The Nankan Steam Basin is designated as a heavy metal copper total concentration control area. •The tributary Dongmen Creek basin is designated as a heavy metal copper enhanced total control area. •The original law stipulated that the discharge water discharge copper concentration was 3ppm. •Shanying plant was the first-level control area, the discharge water copper concentration was reduced to 1.5ppm. •The current state of the factory discharge water quality is better than the stricter limit standard, But it is still necessary to continuously monitor the emission levels of each plant. Major publicly-led initiatives include" Taoyuan City Nankan Stream Water Environment Improvement Project":

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		•The water purification project in the upper reaches of Nankan stream was completed in September 2019, and from October 2019 to March 2020 is conducting trial run. •The city government has also set up the Dongmen creek Intercepting Station of the Taoyuan North District Water Resources Recovery Center, which can transport up to 34,0002 tons of Dongmen creek water to the Water Resources Recovery Center for purification treatment and then release to Nankan stream to strengthen Dongmen creek and Nankan stream water purification rate. ***REF020: Taoyuan City Nankan Stream Water Environment Improvement Project*** ***REF021: Dongmen creek water purification treatment news release***
1.5.2	Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.	Unimicron has identified applicable water-related legal and regulatory requirements and a Form for Compliance Evaluation of Laws and Regulations has been developed. The water rights also be reviewed. ***REF022: Applicable water-related legal and regulatory requirements*** ***REF023: Groundwater rights list***
1.5.3	The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.	According to the statistics of the annual hydrological report from 1982 to 2014, the average water level of Nankan stream was 41.83M, and the maximum instantaneous water level was 45.73M. From Catchment Report Table 4, Nankan stream water level annual statistics and Figure 7 annual water level comparison chart, it is can be known the difference in water level between seasons is not obvious in Nankan stream Basin. Groundwater: The nearest rainfall monitoring and groundwater level continuous observation well to the Unimicron Shanying Plant is the Luzhu Station built by the Water Resources Department. The station is located at the northern end of the Taoyuan area. The average daily groundwater

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		level shows that the highest occurs in February each year. The rest of the time is change in the interval of 15~16 meters. It is very different from the annual rainfall distribution (see catchment report Figure 8). Because the station is located in a densely populated area and the industrial demand is high, the water level change of the station should be caused by human development. It shows that when the drought situation gets worse, the period from mid-January to June is the most severe period of water level drop. ***REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron***
1.5.4	Water quality, including physical, chemical, and biological status, of the catchment shall be identified, and where possible, quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be identified.	Water quality of water source: • The front-end water source of Dayan Water Purification Plant comes from Shimen Reservoir, and the water is taken from Houchi Weir and sent to Dayan Water Purification Plant for treatment by Taoyuan Dazhen. At present, there are six water quality monitoring stations in Shimen Reservoir. Each monitoring station conducts inspections once a month to monitor the water quality indicators of the reservoir. For the water quality monitoring data and basic design specifications of the reservoir within three years, please refer to Catchment Report Table 10 Shimen Reservoir water quality monitoring data. Water quality of tap water: • Unimicron Shanying Plant tap water source is supplied by the Dayan Water Purification Plant. The raw water of Dayan Water Purification Plant comes from Shimen Reservoir. The raw water of the first phase of the raw water is set at a water intake at 21.5 kilometers from Taoyuan Dazhen, and the second phase of the raw water is set at a water intake at the Yuanshan Weir of Dahan River. The pump station is pressurized and sent to the water purification plant through a 1,500 mm water pipe for treatment.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		• The water purification process of Dayan Water Purification Plant is traditional. The raw water enters the raw water station, is coagulated with "polyaluminum chloride" and disinfected with "pre-chlorination", precipitated, filtered, and then disinfected with "post-chlorination", and finally sent To the clear water tank, it is sent to the user via a water pump. The turbidity of the raw water is 30~100NTU, and the water output is about 320,000 CMD. Regional groundwater quality: • According to the water quality monitoring data of regional groundwater monitoring wells in Taiwan by the Environmental Protection Agency, the groundwater observation well closest to the Unimicron Shanying Plant in this case was built in Qingxi Junior High School, about 1.32 kilometers (as shown in Catchment Report Figure 10) ***REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron***
1.5.5	Important Water-Related Areas shall be identified, and where appropriate, mapped, and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.	There is an important water related area in the catchment: Chaoyang Forest Park Taoyuan City Government has promoted the overall improvement plan of Nankan stream since 2011. Among them, the tributary of Nankan stream whose water quality has deteriorated the most is Dongmen Creek. According to the survey, domestic sewage and industrial wastewater are the main factors affecting the water quality of Dongmen Creek. However, The sewage system around the Dongmen creek will start until 2022 gradually. Therefore, Taoyuan City Government selected the left bank of Dongmen creek-Chaoyang Forest Park to build a gravel water purification facility to purify the water quality. Through this project, the water of Dongmen creek and neighboring communities will be treated "on-site", which can improve the water quality of Dongmen River in advance and

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		make the downstream Nankan stream water quality can be significantly improved. Purified water can be up to 10,000 tons per day, and in conjunction with the Taoyuan sewage sewer interception station, another 34,000 tons of Dongmen Creek water can be intercepted daily to the Taoyuan North Water Recycling Center for processing. Through multiple methods, it is hoped the water quality of Dongmen Creek can be improved in advance before sewage sewer system completed, So that the water quality of Nankan stream downstream can be significantly improved. ***REF024: Chaoyang Forest Park location***
1.5.6	Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.	The water-related infrastructure in the catchment including 2 water supply facilities, 2 flood control and drainage facilities, 2 sewage treatment facilities, and 1 rural water conservancy facility. According to administrative divisions, Guishan District has the largest number of groundwater rights, with a total of 32 million cubic meters of groundwater rights. The number of groundwater rights and registered water volume in Guishan District are shown in Catchment Report Table 13 and Table 14. The nearest drought-resistant wells of site is shown in Table 15. In order to promote the overall vision of Nankan stream, the total construction expenditure has reached more than 154 billion. Please refer to “Nankan Stream Water Environment Improvement Project”. The project progress is reviewed periodically to monitor the potential risk. ***REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron*** ***REF020: Taoyuan City Nankan Stream Water Environment Improvement Project***

Indicator	Details (Core)	Evidence Reviewed/Document Reference
1.5.7	The adequacy of available WASH services within the catchment shall be identified.	According to publicly available tap water penetration rate data from the Water Resources Department of the Ministry of Economic Affairs, by end of June 2019, Unimicron Shanying Plant area' water penetration rate in the second district management office was 95.45%, indicating that almost all people in this area have clean and stable tap water. The total sewage treatment rate in Taoyuan City is 64.56%, of which the penetration rate of public sewage sewers is 15.5%, the penetration rate of dedicated sewage sewers is 24.3%, and the installation rate of sewage facilities in buildings is 24.93%. The sewage concentration can be reduced due to arbitrary discharge and the occurrence of environmental pollution. ***REF025: Tap water penetration rate report*** ***REF026: Total sewage treatment rate report***
1.6	Understand current and future shared water challenges in the catchment, by linking the water challenges identified by stakeholders with the site's water challenges.	
1.6.1	Shared water challenges shall be identified and prioritized from the information gathered.	Unimicron Shanying Plant identify eleven Shared Water Challenges. Four challenges were prioritized by stakeholders and shown in Catchment Report Chapter 4. There are: •The ecological impact of the Company on the natural water environment. •The operation interruption of the Company caused by water shortage due to extreme climate (flood/ drought). •The interruption of raw material supply of the Company caused by insufficient water resources in the supply chain. •The Company's compliance with water related regulations (wastewater discharge). However, when Unimicron analysis the stakeholders' questionnaire remove the score less than 4. It will affect "Shared water challenges" analysis results. Therefore, a Minor CAR 02 is raised for this indicator.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron
1.6.2	Initiatives to address shared water challenges shall be identified.	The initiative for top four challenges is showed in Catchment Report Chapter 4. There are: •River basin comprehensive management; •River and creek desilting and environmental management; •Improve water quality and create a hydrophilic environment; •Improve disaster prevention capacity; •Water recycling center proper operation; •Sewage pipeline inspection and maintenance. ***REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron***
1.7	Understand the site's water risks and opportunities: Assess and prioritize the water risks and opportunities affecting the site based upon the status of the site, existing risk management plans and/or the issues and future risk trends identified in 1.6.	
1.7.1	Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.	According to the collecting data from stakeholders questionnaire, the items that have high impact on stakeholders and site are listed in the water risk list. Four items are ranked according to the probability and severity of the incident. The risk ranking results shown "The Company's compliance with water related regulations" has priority ranking #1. ***REF027: Water risk ranking***
1.7.2	Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.	Unimicron implement water management from the initial "self-inventory" to understand the water consumption in the site, to the "water-saving goals setting and implementation the plan" to reduce the water consumption in the site. Up to recent "increasing the utilization rate of recycled water", it is hoped that through various technology or management method to increase

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		the amount of recycled water and reuses water to reduce the use of fresh water. Unimicron set up the long-term goal of water resources management is to "maintain the intensity of water consumption per unit revenue below 310" in 2023. In order to achieve the water-saving goal in Shanying Plant, a total of 26 water-saving plans were proposed in 2019. "increasing the utilization rate of recycled water" have 5 cases and the water saving is 54,410 tons/year. There are 8 cases of "adjusting production schedule and centralized production" and total of 90,570 tons of water saved per year. One "Equipment Improvement" case was implement and total of 1,562 tons of water saved per year. One "Efficiency Improvement" case was implement and total of 237,120 tons of water saved per year. Total 11 "Production Parameter Adjustment" cases were implement and saving 109,526 tons/year of water. Sum up the total annual water saving is 493,188 tons/year. The water saving data was verified through sampling. ***REF028: Water saving projects list***
1.8	Understand best practice towards achieving AWS outcomes: Determining sectoral best practices having a local/catchment, regional, or national relevance.	
1.8.1	Relevant catchment best practice for water governance shall be identified.	In order to compare water consumption, Unimicron reference Taiwan cleaner production standards and corporate social responsibility reports of the same industry. However, due to insufficient data sources, it is impossible to confirm the formula for calculating the indicators, so the comparison cannot be made. Therefore, Unimicron reference the Cleaner Production Standards of the People’s Republic of China (Printed Circuit Board Manufacturing) to make comparision.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		The four plants in the site have slightly different products and the number of laminates, so they are checked 2019 data separately, and the water consumption per unit area in each month results are as follows: 1. Shanying Plant: lower than the first level. 2. Jingtzai 1st Plant: lower than the third level. 3. Jingtzai 2nd Plant lower than the first level. 4. Jingtzai 3rd Plant lower than the third level. Three level standards are following: • The first level standard: the international advanced level of cleaner production. • The second level standard: advanced level of domestic cleaner production. • The third level standard: the basic level of domestic cleaner production. ***REF029: The water consumption per unit area in each month***
1.8.2	Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.	Unimicron's total water consumption will vary with machine operation and production conditions. Therefore, Unimicron plan to control the water intensity can be control within a certain range to ensure the water efficiency of the factory; Through improve water efficiency, Unimicron site water consumption per unit area data is in third level of Cleaner Production Standards of the People's Republic of China (Printed Circuit Board Manufacturing). ***REF029: The water consumption per unit area in each month***
1.8.3	Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.	In addition to complying with laws and regulations, Unimicron's wastewater discharge has also set stricter internal control standards, and through an irregular internal audit system to ensure that wastewater discharge in each plant meets the criteria; in addition, Unimicron's wastewater discharge outlets are automatically monitored by laws and regulations. The system

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		regularly sends back water quality information to the competent authority Taoyuan EPB. Unimicron's wastewater discharge in 2019 all met the discharge water discharge standards, and no water related fines were generated. At present, the discharge of wastewater pollutants in each plant is far below the approved criteria. Unimicron also proactively publishes quarterly wastewater discharge analysis data on the company's official website, so that stakeholders can know the company's wastewater treatment result at any time. ***REF004: Water quality analysis report*** ***REF030: Environmental Protection Penalty Record***
1.8.4	Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.	"Chaoyang Forest Park" is located at the point where Unimicron's wastewater discharges to Dongmen creek and then to Nankan stream. Therefore, it is defined as an important water-related area in the catchment. The place is used by the Taoyuan City Government to promote water quality purification and environmental education. It is a water quality demonstration park in the catchment. Therefore, it is an important water-related area in the catchment, about 3.2 kilometers away from Unimicron Shanying Plant. Since the fourth quarter of 2019, Unimicron has started to conduct independent inspections on the rivers next to Chaoyang Forest Park once a quarter. The inspection items include pH, copper, nickel, chemical oxygen demand, and suspended particulates to ensure the sustainability of the water quality of Dongmen Creek. In the future, Unimicron also plan to lead employees and family members to visit the forest park, so that everyone can understand the purpose of the park and the design principles of the water purification facilities between the gravels, so as to enhance everyone's understanding of the water and the surrounding environment.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		The main water source of Unimicron Shanying Plant is tap water. The tap water source is treated and supplied by the Dayan Water Purification Plant. The front-end water source of Dayan Water Purification Plant comes from Shimen Reservoir. Therefore, Shimen Reservoir is defined as an important water-related area in the catchment. ***REF004: Water quality analysis report***
1.8.5	Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.	Taiwan's laws and regulations (Building Technical Regulations, Construction Equipment), all relevant places should consider the type of building to install sanitary equipment in the building, and legally set up factories can obtain relevant use licenses. It is believe that relevant industries in the catchment have sufficient sanitary equipment for the use of personnel in the premises. There are sufficient drinking fountains in the factory, and to ensure the safety of drinking water, the administrative unit regularly commissions external certified lab to conduct water quality testing and post the test results on the drinking fountains. According to the construction Law, a certain number of urinals and urinals must be installed in the factory. This law regulates all industries in all buildings. ***REF016: WASH inventory Data*** ***REF017: Building legal requirements***
2	Commit and Plan (core)	
2.1	Commit to water stewardship by having the senior-most manager in charge of water at the site, or if necessary, a suitable individual within the organization head office, sign and publicly disclose a commitment to water stewardship, the implementation of the AWS Standard and achieving its five outcomes, and the allocation of required resources.	

Indicator	Details (Core)	Evidence Reviewed/Document Reference
2.1.1	A signed and publicly disclosed site statement OR organizational document shall be identified. The statement or document shall include the following commitments: - That the site will implement and disclose progress on water stewardship program(s) to achieve improvements in AWS water stewardship outcomes - That the site implementation will be aligned to and in support of existing catchment sustainability plans - That the site's stakeholders will be engaged in an open and transparent way - That the site will allocate resources to implement the Standard.	A water stewardship commitment to follow all the AWS core criteria has been signed by Unimicron's CEO. The commitment has been displayed on Unimicron's website: https://www.unimicron.com/csr/ch/ebook_list_policy.html ***REF032: Unimicron Occupational Safety, Health and Environmental Resources Policy***
2.2	Develop and document a process to achieve and maintain legal and regulatory compliance.	
2.2.1	The system to maintain compliance obligations for water and wastewater management shall be identified, including: - Identification of responsible persons/positions within facility organizational structure - Process for submissions to regulatory agencies.	In accordance with the "Waste (Sewage) Water Treatment Units or Personnel Setting and Management Measures", the designated units and personnel have been set up by Unimicron Shanying Plant. The list of personnel in the "plants responsible for setting up a consolidated table". In addition, in accordance with the "Environmental Protection and Energy Regulations and Other Requirements Management Procedures" (EA03-009), collect information on environmental protection/energy regulations added or revised last month before the 10th of each month. Confirm that the record is completed. In 2019/11, the annual external ISO 14001 audit was completed, and there were no non-compliances with relevant legal requirements such as wastewater treatment, discharge, personnel qualifications, etc. The EPA also found no relevant violations of laws and regulations.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		REF030: Environmental Protection Penalty Record
2.3	Create a water stewardship strategy and plan including addressing risks (to and from the site), shared catchment water challenges, and opportunities.	
2.3.1	A water stewardship strategy shall be identified that defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with this AWS Standard.	Unimicron already set up the long-term goals and presented in the 2019 CSR report. The long-term goal for 2023 is “the electricity and water intensity per unit of revenue will be less than 310”. ***REF033: Unimicron Y2023 long-term goals***
2.3.2	water stewardship plan shall be identified, including for each target: - How it will be measured and monitored - Actions to achieve and maintain (or exceed) it - Planned timeframes to achieve it - Financial budgets allocated for actions - Positions of persons responsible for actions and achieving targets - Where available, note the link between each target and the achievement of best practice to help address shared water challenges and the AWS outcomes.	The long-term (2023) goal of water resources management is to "maintain the intensity of water consumption per unit revenue below 310", and the goal for 2019 is to "maintain the intensity of water consumption per unit revenue below 315". Each plant fills in the "Plant of Energy Conservation Measures in the Plant" to track the implementation status of various projects. In 2019 Water consumption intensity per unit revenue is 245. However, the energy-saving measures plan for the plant in 2019 didn’t be provided. Therefore, a ***Minor CAR 03*** is raised for this indicator. ***REF028: Water saving projects list***
2.4	Demonstrate the site’s responsiveness and resilience to respond to water risks.	
2.4.1	A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.	Unichrom’s main water sources are tap water and groundwater. Tap water is supplied by the Taiwan Water Cooperation. Before a planned water shutdown occurs, the Taiwan Water Cooperation will post a water shutdown announcement on the website and notify the relevant window by e-mail to public and Unimicron can prepare in advance.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		The safety and environmental protection unit continuously monitors the reservoir calendar and the water condition light signal to confirm whether there is any doubt about the water stoppage. In order to minimize the disasters caused by untreated waste water discharge or overflow during accidents, Unimicron has established EA13-001 environmental emergency response management operating procedures and implemented them in accordance with regulations. The latest challenge for Unimicron Shanying Plant is based on the total amount of wastewater and copper discharge control method in the Nankan Stream. The 2018/01/15 announcement and effective implementation date is 2021/01/01. Unimicron Shanying Plant is the first-level total control area, and the current discharge concentration is lower than the legal standard after investigation. The above process had been verified to be followed. ***REF034: Unimicron response plan for "The total amount of heavy metal discharge control measures in the stream basin of Taoyuan City"***
3	Implement (core)	
3.1	Implement plan to participate positively in catchment governance.	
3.1.1	Evidence that the site has supported good catchment governance shall be identified.	Unimicron Shanying Plant, Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant were not issued any fines for violating the Water Pollution Control Law from 2014 to 2019. Unimicron actively participates in various environmental protection award competitions organized by government agencies. Among them, Jingtzai 1st Plant won the corporate environmental protection award and special award from 2011 to 2013. In 2012, it won the excellent enterprise of

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		Taoyuan County carbon reduction and water saving plan and 2013 Corporate Environmental Protection and Green Energy Excellence Award. Unimicron has also shared relevant experience with the factories in the group. The company's associations are also initiated by employees, and activities such as beach cleaning, river cleaning and environmental protection knowledge sharing are organized from time to time. Invite employees and family members to participate together. ***REF030: Environmental Protection Penalty Record*** ***REF037: Environmental Protection Activity List***
3.1.2	Measures identified to respect the water rights of others including Indigenous peoples, that are not part of 3.2 shall be implemented.	Unimicron's water source is the Shimen Reservoir. According to the catchment map, there is no living area around the plant, so there is no conflict with the traditional water rights of the Indigenous peoples. ***REF038: Catchment boundary map***
3.2	Implement system to comply with water-related legal and regulatory requirements and respect water rights.	
3.2.1	A process to verify full legal and regulatory compliance shall be implemented.	Unimicron Shanying Plant, Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant obtained pollutant discharge permit in accordance with the law. Unimicron Shanying Plant, Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant were not issued any fines for violating the Water Pollution Control Law from 2014 to 2019. ***REF030: Environmental Protection Penalty Record*** ***REF038: Four Plants' pollutant discharge permit***
3.2.2	Where water rights are part of legal and regulatory requirements, measures identified to respect the water rights of others including Indigenous peoples, shall be implemented.	Unimicron is not located in a specific water conservation area Unimicron's water meets legal requirements and cooperates with the government to regulate water use

Indicator	Details (Core)	Evidence Reviewed/Document Reference
3.3	Implement plan to achieve site water balance targets.	
3.3.1	Status of progress towards meeting water balance targets set in the water stewardship plan shall be identified.	Water balance goal: The long-term (2023) goal of water resources management proposed by the Group in 2018 is to maintain water consumption intensity per unit of revenue below 310 tons / million turnover. According to statistics, a total of 26 water-saving plans proposed by the Shanying Plant in 2019 have been completed; in 2020, 42 water-saving plans have been proposed. With the increase in production capacity, the water consumption of the plant has also increased compared with previous years. According to statistics, the plant has dropped from 341 (tons/million turnover) in 2018 to 278.4 (tons/million turnover) in 2019. It is verified that the intensity of water consumption per unit revenue of the plant does not increase but decreases, indicating that the water efficiency of the area has been effectively improved. ***REF039: Y2019 intensity of water consumption per unit revenue***
3.3.2	Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.	Unimicron's printed circuit board manufacturing industry has complicated procedures and requires the use of large amounts of water resources, thus water source and volume are part of the most important keys to sustainable operations. In order to reduce the waste of water resources, the group has set long-term goals for water resources management as "Unit The revenue water consumption intensity is maintained below 310". It is hoped that through the improvement of production processes and equipment, water efficiency and water recovery will be improved, thereby reducing water costs. A total of 26 proposals in 2019 were put forward by the plant and all water-saving proposals have been implemented. The trend of water consumption in Shanying Plant in 2019, water consumption varies with production conditions. Looking at the overall

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		water consumption situation in the year, the water consumption per unit of revenue has been maintained within a certain level in 2019, it has reached the long-term water intensity target set by the group.
3.3.3	Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.	Unimicron does not have the right to redistribute water.
3.4	Implement plan to achieve site water quality targets.	
3.4.1	Status of progress towards meeting water quality targets set in the water stewardship plan shall be identified.	The company's process and sewage will be treated by wastewater treatment facilities before being discharged, and will be discharged into the designated surface water body after confirming that it meets the discharge water standard. In order to ensure that wastewater discharge meets the permitted standards, site people take daily water samples for analysis to confirm that the water quality meets the internal control values and discharge water standards of the Biological Center, and post the tested values in the record sheet for verification. According to the 2018/01/15 announcement and effective immediately, the total amount of wastewater copper discharge control in the Nankan Stream, the copper concentration shall not be higher than 1.5 mg/L. Therefore, in Shanying Plant, the copper concentration of the discharged water shall not be higher than 1.5 mg/L. In the water quality control system (SPC system) in the plant, the copper concentration limit of the discharged water is 1.2 mg/L, and the water quality of the discharged water meets the standard. ***REF040: The internal control values of the Biological Center***
3.4.2	Where water quality is a shared water challenge, continual improvement to achieve best practice for the site's effluent shall be identified and where applicable, quantified.	According to the 2018/01/15 announcement and effective immediately, the total amount of wastewater copper discharge control in the Nankan Stream, the copper concentration shall not be higher than 1.5 mg/L.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		Therefore, in Shanying Plant, the copper concentration of the discharged water shall not be higher than 1.5 mg/L. After check, the current discharge concentration is lower than the legal standard. In order to avoid the impact of stricter environmental protection laws and standards, in the future, Unimicron plan to invest in the efficiency improvement and expansion of wastewater treatment facilities, the reduction of source pollutants, and the establishment of internal wastewater discharge control standards that are better than the laws to reduce the impact of environmental pollution and operations. ***REF034: Unimicron response plan for "The total amount of heavy metal discharge control measures in the stream basin of Taoyuan City"*** ***REF041: Unimicron response plan for "The release of Cu control in the biological center"***
3.5	Implement plan to maintain or improve the site's and/or catchment's Important Water-Related Areas.	
3.5.1	Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.	Unimicron Shanying Plant defined as important water-related areas. There are four areas, 1. Well water supply point, 2. Central medicine storage area, 3. Wastewater treatment plant, 4. Biological center and ecological pool, Unimicron continuously manages and improves the above four areas. The plan had been verified.
3.6	Implement plan to provide access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers at all premises under the site's control.	
3.6.1	Evidence of the site's provision of adequate access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers onsite shall be identified and where applicable, quantified.	Unimicron Shanying Plant provides sufficient water for people's livelihood for employees to use, including drinking water, flushing water, and handwashing water, as follows:

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		1. There are sufficient drinking fountains in the factory, and to ensure the safety of drinking water, the administrative unit regularly commissions external professionals to conduct water quality testing and post the test results on the drinking fountains so that messengers can drink water at ease. The drinking fountains are placed In the pantry, stairwell, etc., employees and other personnel entering the factory can have sufficient drinking water to use. For site, there are 122 drinking fountains in the four plants and the drinking water source is sufficient. 2. According to the construction law, a certain number of urinals and urinals must be installed in the factory. In addition to complying with the regulations, the company is also superior to the regulations. The number of people working on the day and night in the four factories within the scope of this verification is about 5,000 and 2,500 There are a total of 177 urinals for men's toilets, about 73 toilets for men's toilets, and about 217 toilets for woman. There are sufficient toilet paper in each toilet, and regular cleaning staff to supplement and clean the toilet , So that personnel have clean toilet space. 3. Site has posted water safety and sanitation signs in the planty to remind users that tap water is not drinkable, so as not to cause physical discomfort due to incorrect drinking; in addition, site also posted water-saving advocacy signs to remind users save water. ***REF015: Evaluating Access to Water, Sanitation and Hygiene (WASH) at the Workplace*** ***REF016: WASH inventory Data*** ***REF017: Building legal requirements***
3.6.2	Evidence that the site is not impinging on the human right to safe water and sanitation of communities through their operations, and that traditional access rights for Indigenous	Unimicron Shanying Plant is located in an area with frequent water shortages and droughts. The main water sources are tap water and well water. Tap water is used according to the distribution of the water company. In 2019, neighbors around the plant did not contact the

Indicator	Details (Core)	Evidence Reviewed/Document Reference
	and local communities are being respected, and that remedial actions are in place where this is not the case, and that these are effective.	company due to water-related issues. By reacting or reporting, it did not affect the human rights of safe water and environmental sanitation in the community.
3.7	Implement plan to maintain or improve indirect water use within the catchment.	
3.7.1	Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.	The indirect water use target is together with CSR related audits. On-site audits are conducted on 12 suppliers every year to understand their water management status. All supplier audits in 2019 have been completed. However, the audit is only confirming supplier's water use target and didn't check the target achievement result. it is unclear for indirect water use target is to audit suppliers energy saving target or just complete the audit. Therefore, a ***Minor CAR 01*** is raised for this indicator. ***REF042: The non-conformity items for 2019 supplier audit***
3.7.2	Evidence of engagement with suppliers and service providers, as well as, when applicable, actions they have taken in the catchment as a result of the site's engagement related to indirect water use, shall be identified.	Unimicron uses the " Unimicron Social Responsibility Evaluation Form" to evaluate suppliers, including water management, etc. The evaluation content for water resources issues is as follows: Participant shall implement a water management program that documents, characterizes, and monitors water sources, use and discharge; seeks opportunities to conserve water; and controls channels of contamination. All wastewater is to be characterized, monitored, controlled, and treated as required prior to discharge or disposal. Participant shall conduct routine monitoring of the performance of its wastewater treatment and containment systems to ensure optimal performance and regulatory compliance. In 2019, the number of suppliers that received on-site audits was 12, and they shared water-related information with suppliers during on-site visits It was originally scheduled to increase the number of promotional activities during Q2 Supplier Conference. However, due to the impact of the COVID-19 epidemic, the supplier conference has been suspended. Therefore, the

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		promotional materials will be posted on the company's external website for all stakeholders consult. ***REF043: Unimicron CSR audit form***
3.8	Implement plan to engage with and notify the owners of any shared water-related infrastructure of any concerns the site may have.	
3.8.1	Evidence of engagement, and the key messages relayed with confirmation of receipt, shall be identified.	The communication channel with the competent authority includes official documents, letter and site visits. According to data, there are 18 water-related official documents in 2019, 15 related to waste and sewage, 1 related to tap water, and 2 related to groundwater. The total volume control of Nankan stream is the most concerned by our company. ***REF044: EHS Department external communication documents list***
3.9	Implement actions to achieve best practice towards AWS outcomes: continually improve towards achieving sectoral best practice having a local/catchment, regional, or national relevance.	
3.9.1	Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.	Unimicron has set occupational safety and health and environmental resource policies, and required the plant to brainstorm and formulate water-saving plans (26 plans were proposed in the plant in 2019, and all plans have been completed; 42 water-saving plans have been proposed in 2020), Site also communicate and promote water-related information to employees; Unimicron also maintains communication with stakeholders. When stakeholders have problems and need to respond, they can easily find the window to respond, so that Unimicron can respond and deal with it immediately.
3.9.2	Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.	In order to manage the water efficiency of the group, the long-term (2023) goal of the company's group water resources management is to "maintain the water consumption intensity per unit revenue below 310". It is hoped that through the improvement of production processes and equipment,

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		water efficiency and recovery of water will be improved, and then reduce water costs. According to statistics, there are 26 water-saving plans proposed in Shanying Plant in 2019, saving 440,247 tons of water per year. In 2019, the unit revenue water consumption intensity of these four plants is 278.40, reaching the target set by the group. ***REF039: Y2019 intensity of water consumption per unit revenue***
3.9.3	Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.	The water pollution prevention and control permit stipulates that the COD emission of the Shanying plant is 624.6 tons/year, and the actual discharge in 2019 is 352.68 tons/year, accounting for 56.5% of the permitted amount; The CU emission is 42.36 tons/year, and the actual discharge in 2019 is 3.68 tons/year, accounting for 9% of the permitted volume. The company's wastewater discharge quality is far below the discharge standard, and no water-related fines have been generated in the past three years According to the "Taoyuan City Nankan Stream Wastewater Copper Discharge Total Control Method", the copper discharge limit of existing factories in the first-level total control zone has been revised to 1.5mg/l. Unimicron Shanying Plant has been checked the effluent concentration of the plant is lower than the legal standards; in order to avoid the impact of stricter environmental protection laws and standards, Unimicron Shanying Plant 's biological center has set up countermeasures, including COD warning countermeasures, Cu warning countermeasures, and pH warning countermeasures. ***REF030: Environmental Protection Penalty Record*** ***REF034: Unimicron response plan for "The total amount of heavy metal discharge control measures in the stream basin of Taoyuan City"***

Indicator	Details (Core)	Evidence Reviewed/Document Reference
3.9.4	Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.	The important water related area in the catchment is "Chaoyang Forest Park". Since the fourth quarter of 2019, Unimicron have started to conduct independent sampling and analysis the rivers next to Chaoyang Forest Park once a quarter. The analysis items include pH, copper, nickel, and chemical oxygen demand. And suspended particulates for continuous observation of the water quality of Dongmen Creek. The well is the important water related area of the plant. Since Q4 of 2019, the water quality of the well water in the plant has been independently analysis every quarter. The analysis items include pH, conductivity, copper, nickel, chemical oxygen demand, and suspended solids. It is to confirm the quality of the well water and ensure that the production in the plant does not pollute the well water. Tap water source is supply by the Dayan Water Purification Plant and managed by the Second District Management Office of Taiwan Water Cooperation. The water source of the water purification plant comes from Shimen Reservoir, so "Shimen Reservoir" is listed as an important water-related area. Since 2017, Unimicron has carried out health promotion activities at the water source "Shimen Reservoir" every year, and invited company colleagues and family members to participate in road running activities in the reservoir. ***REF004: Water quality analysis report***
3.9.5	Actions towards achieving best practice related to targets in terms of WASH shall be implemented.	There are sufficient drinking fountains in the site, and in order to ensure the safety of drinking water, the administrative unit regularly commissions external certified lab to conduct water quality analysis, and the ana;ysis results are posted on the drinking fountains. Site drinking fountains are placed in the pantry, staircase, etc., so that employees and other personnel entering the factory can have sufficient drinking water to use.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		Within the scope of this verification, there are 112 drinking fountains in the four factories. Adequate water supply. According to the construction law, a certain number of urinals and urinals must be installed in the factory. In addition to complying with the regulations, the company is also superior to the regulations. The number of people working day and night in the four plants is about 5,000 and 2,500. There are 150 urinals in men's toilets, 140 stools in men's toilets, and 217 toilets in women' toilets. There are enough toilet papers in each toilet, and the cleaning staff will regularly supplement and clean the toilet, so that the staff has Clean toilet space. In response to the outbreak of the COVID-19 epidemic in 2020, the plant is particularly focused on the promotion of the hygiene habits of each person. In addition to posting relevant announcements in the factory, it also uses handover shifts and monthly meetings to promote epidemic prevention measures and uses the factory video wall to strengthen the promotion. ***REF016: WASH inventory Data***
4	Evaluate (core)	
4.1	Evaluate the site's performance in light of its actions and targets from its water stewardship plan and demonstrate its contribution to achieving water stewardship outcomes.	
4.1.1	Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.	Unimicron' 2019 water management plan goal is to maintain water consumption intensity per unit revenue below 315. By promoting various water-saving measures in the plant, the annual water management plan goal has been reached. According to statistics, there are 26 water-saving plans in 2019. This year's water-saving plans mainly focus on project improvement, production deployment, and production changes. All the plans have been implemented. As of May 2020, a total of 34 water-saving plans have been proposed.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		However, no supporting evidence for 26 water-saving plans had been provided. Therefore, a ***Minor CAR 04*** is raised for this indicator. ***REF028: Water saving projects list***
4.1.2	Value creation resulting from the water stewardship plan shall be evaluated.	According to statistics, the amount of investment in water-saving projects in 2019 was NT$1.24 million and the total water saving for those projects were about 440,000 metric tons, which could reduce 27.852 T-Co2e. The long-term goal of water resources management was set by the group to “maintain the intensity of water consumption per unit revenue of 310 Below", although the water consumption of the plant will vary with the production status, we strive to do a good job of water control to maintain the water consumption per unit of revenue at a certain level. Statistics on the unit revenue consumption of the four plants in 2019, the water volume per unit revenue is 278.40 which is reaching the target set by the group. However, no any comparison between 2018 with 2019 value to quantify the improvement achievement. Therefore, a ***Minor CAR 05*** is raised for this indicator. ***REF039: Y2019 intensity of water consumption per unit revenue***
4.1.3	The shared value benefits in the catchment shall be identified and where applicable, quantified.	Unimicron collected the information and compiling relevant data to complete a watershed report, Unimicron will also conduct independent water collection sampling and analysis on Dongmen Creek every quarter from the fourth quarter of 2019 and continue to observe the water quality in the river. If there is a special abnormality in t Unimicron was invited by "Taiwan Printed Circuit Board Association" to participate in the "ECO Master Campus Sharing Session-Environmental Education" textbook compilation and as a lecturer. Unimicron also go to the Shimen Reservoir water supply area and Nankan Stream Basin

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		(covering Taoyuan City) nearby middle and elementary schools conduct the environmental awareness education. in the past five years, a total of 3,516 students have served 40 schools. During past three years, Unimicron has also participated in a total of 9 beach cleaning activities in the downstream of Nankan Stream and other coastal areas. However, no shared value benefits in the catchment had been provided. Therefore, a ***Minor CAR 06*** is raised for this indicator.
4.2	Evaluate the impacts of water-related emergency incidents (including extreme events), if any occurred, and determine the effectiveness of corrective and preventative measures.	
4.2.1	A written annual review and (where appropriate) root-cause analysis of the year's emergency incident(s) shall be prepared and the site's response to the incident(s) shall be evaluated and proposed preventative and corrective actions and mitigations against future incidents shall be identified.	In 2019, no water-related emergencies occurred in Unimicron Shanying Plant. The relevant information in Unimicron 's 2019 corporate social responsibility report had been verified. Unimicron response plan for "The release of Cu control in the biological center" also be verified. ***REF041: Unimicron response plan for "The release of Cu control in the biological center"***
4.3	Evaluate stakeholders' consultation feedback regarding the site's water stewardship performance, including the effectiveness of the site's engagement process.	
4.3.1	Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.	Unimicron communicates with all stakeholders through online questionnaires. By means of company's webpage to announce contact window information to let stakeholders can respond to the correct window in a short time. For related matters, Unimicron also communicate and exchange opinions with suppliers through questionnaires and on-site visits. Customers also understand and communicate with Unimicron through routine questionnaires and on-site visits.
4.4	Evaluate and update the site's water stewardship plan, incorporating the information obtained from the evaluation process in the context of continual improvement.	

Indicator	Details (Core)	Evidence Reviewed/Document Reference
4.4.1	The site's water stewardship plan shall be modified and adapted to incorporate any relevant information and lessons learned from the evaluations in this step and these changes shall be identified.	The long-term goal of the Unimicron's water resources management is "to maintain water consumption intensity per unit revenue below 310". According to statistics, all water-saving plans proposed by Unimicron Shanying Plant in 2019 have been completed. The statistics for the year are these four plants water consumption per unit revenue was 278.4, a decrease of 4.7% from the previous year. Due to this year is the first AWS verification. The relevant information is the latest information and will continue to be updated in the future.
5	Communicate & Disclose (core)	
5.1	Disclose water-related internal governance of the site's management, including the positions of those accountable for legal compliance with water-related local laws and regulations.	
5.1.1	The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.	According to Unimicron's procedures [EA04-002 Environmental Management Manual], the facility department should promote the operation of the environmental management system, the implementation and discharge of wastewater treatment, water-related environmental management, various environmental protection, equipment maintenance, and abnormal discharge of environmental protection facilities Correction, prevention, follow-up and effect confirmation, etc.. The personnel in environmental protection-related operations, must be appointed with relevant background personnel and given professional training. The company's webpage also announced the contact window information to let stakeholders can respond to the correct window in a short time. The responsible personnel list had been reviewed. ***REF053: Environmental Management System Manual*** ***REF054: Organization Chart*** ***REF055: The environmental specialist list***
5.2	Communicate the water stewardship plan with relevant stakeholders.	

Indicator	Details (Core)	Evidence Reviewed/Document Reference
5.2.1	The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.	In 2019, the number of suppliers that received on-site audits was 12, and they shared water-related information with suppliers during on-site visits It was originally scheduled to increase the number of promotional activities during Q2 Supplier Conference. However, due to the impact of the COVID-19 epidemic, the supplier conference has been suspended. Therefore, the promotional materials will be posted on the company's external website for all stakeholders consult. ***REF043: Unimicron CSR audit form***
5.3	Disclose annual site water stewardship summary, including the relevant information about the site's annual water stewardship performance and results against the site's targets.	
5.3.1	A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.	Unimicron disclosure their water management performance in the CSR report every year and make it public for all stakeholders to view. The website is as follows: https://www.unimicron.com/csr/ch/ebook_list.html The monthly water quality analysis results of each plant are published on the website, which is as follows: https://www.unimicron.com/csr/ch/green_energy03.html The Environmental Protection Department of the Executive Yuan-Listed Pollution Source Data Query System can also query the company's wastewater declaration related data. The website is as follows: https://prtr.epa.gov.tw/ The webpage had been verified.
5.4	Disclose efforts to collectively address shared water challenges, including: associated efforts to address the challenges; engagement with stakeholders; and co-ordination with public-sector agencies.	
5.4.1	The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.	Unimicron have written the water-related risks and opportunities on page 45 of the 2019 Corporate Social Responsibility Report and made them available to all stakeholders.

Indicator	Details (Core)	Evidence Reviewed/Document Reference
		In recent years, customers have asked Unimicron to fill in the CDP-Water questionnaire, which mentions water-related information. The questionnaire has been completed in 2019 and is public accessible. The content in CSR report had been verified. ***REF056: 2019 Corporate Social Responsibility Report***
5.4.2	Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.	Unimicron was invited by the "Taiwan Printed Circuit Board Association" to participate in the compilation of the "ECO Master Campus Sharing Session-Environmental Education" textbook and serve as a lecturer. In the past five years, Unimicron have served 40 schools and 3,516 students, hoping to convey the correct knowledge of environmental protection to students. Unimicron also handles a number of beach cleaning activities, leading colleagues and family members to participate in beach cleaning activities organized by government agencies and the surrounding patrol team of the plant. So that everyone can clean the marine garbage and understand the impact of the arbitrary disposal of garbage on the ocean and other organisms. Shimen Reservoir is the water source of Dayan Water Purification Plant. In order to protect the water source, Unimicron has organized activities at "Shimen Reservoir" every year since 2017. In order to enable participants to understand the impact of environmental protection on the environment and water resources and bring the knowledge home to achieve the purpose of sharing environmental protection knowledge and rooting down. A total of 52 participants in the 2019 event are counted. ***REF050: Beach cleaning activities and Environmental Education activity***

Indicator	Details (Core)	Evidence Reviewed/Document Reference
5.5	Communicate transparency in water-related compliance: make any site water-related compliance violations available upon request as well as any corrective actions the site has taken to prevent future occurrences.	
5.5.1	Any site water-related compliance violations and associated corrections shall be disclosed.	The company has no major environmental violations in 2019 (fines exceeding NT$1 million). If interested parties have any problems, they can respond via the CSR website to the mailbox. The relevant information is written on page 65 of the 2019 Corporate Social Responsibility Report. The Environmental Protection Department of the Executive Yuan-Listed Pollution Source Data Query System can be verified that no water-related fines were generated in the fourth plant area in recent years. The website is as follows: https://prtr.epa.gov.tw/ EPA webpage has been verified and no water-related fines. ***REF056: 2019 Corporate Social Responsibility Report***
5.5.2	Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.	If stakeholders have any questions, they can respond via the CSR website to their mailbox. The relevant information is written on page 65 of the 2019 Corporate Social Responsibility Report. EPA webpage has been verified and no water-related fines. ***REF056: 2019 Corporate Social Responsibility Report***
5.5.3	Any site water-related violation that may pose significant risk and threat to human or ecosystem health shall be immediately communicated to relevant public agencies and disclosed.	If any serious accident that affects related interests and the surrounding environment of the plant, Unimicron will follow the procedures (EA13-001 Environmental Emergency Response Management Operating Procedure). If needed, the company will notify external units for assistance. EPA webpage has been verified and no water-related fines. ***REF008: EA13-001 Environmental Emergency Response Management Operation Procedure***

5.2 ADVANCED-LEVEL AWS INDICATORS

SGS also conducted a benchmarking exercise for Unimicron Shanying Plant's performance against the AWS Advanced-Level Criteria. The evaluation results are presented in the following Table 5.2.

Table 5.2 Evidence Reviewed by SGS Against Advanced-Level AWS Criteria

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
1	Gather and Understand (advanced)		
1.4.3	The embedded water use of primary inputs in catchment(s) of origin shall be quantified. (7 points)	The main raw materials are divided into four categories: 1. Substrate 2. Gold salt 3. Film 4. Chemical materials. Each plant is classified according to the cost center and focuses on the four major raw materials are sorted according to the requisition amount and category. Each category screens out the five material numbers with the highest requisition amount, and the main raw material list is established based on this. Unimicron categorized 67 major raw material suppliers based on the river basin where the factory is located and used the water footprint SimaPro Ecoinvent 2.2 database to conduct a detailed search of water consumption and calculated the water consumption of each major supplier for the production of our products. According to statistics, the total water consumption is 7,494,343.48 tons/year. ***REF018: Water consumption and wastewater quality related to each main raw material***	**7**
1.5.8	Efforts by the site to support and undertake catchment level water-	In order to understand the relevant information of various water, Unimicron plan to collect data on the water quality of Shimen Reservoir and Dayan Water Purification Plant every season, and conduct independent analysis and testing of	**7**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
	related data collection shall be identified. (4-7 points)	water quality of the water from the wells and the water source of Dongmen River every season. The discharge water is In accordance with local laws and regulations, a third-party certify lab will be appointed every quarter to conduct sampling and analysis, and the data will be reported and published on the external webpage. https://www.unimicron.com/files/csr/EnvironmentaEmissions/Shanying.pdf The following water quality data have been collected: 1. Shimen Reservoir monitoring data, data source "Environmental Water Quality Monitoring Information Network of the Environmental Protection Agency of the Executive Yuan". 2. Water quality data of Dayan Water Purification Plant, data source "Taiwan Water Company". 3. The data source of the water quality of the well water in the factory is "self-sampling and analysis". 4. Water quality data of Dongmen River, data source "self-sampling and analysis". 5. The data source of the company's release water quality is "outsourcing sampling and analysis". ***REF004: Water quality analysis report***	
1.5.9	The adequacy of WASH provision within the catchments of origin of primary inputs shall be identified. (4 points)	According to the information published by the Ministry of Internal Affairs and Construction of the Republic of China, the penetration rate of sewage sewer users in Taiwan is 63.7%, and the penetration rate of sewage sewer users in the location of the Unimicron's main supplier factory is as follows: 1. <Substrate, chemical materials> (Taoyuan City), the penetration rate of sewage sewer users taking over 64.74%. 2. <Golden Salt> (New Taipei City), the popularity rate of sewage sewer users taking over 92.86%.	**4**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
		3. <Chemicals> (Taichung City), the popularity rate of sewage sewer users taking over 65.84%. 4. <Chemicals> (Kaohsiung City), the popularity rate of sewage sewer users taking over 65.32%. 5. <Film> Main supplier factories are located overseas. Article 37 of Taiwan's "Building Technical Regulations and Construction Equipment" stipulates that a certain amount of sanitary equipment (toilet/urinal) should be installed in all relevant places for personnel to use; Thus Unimicron believe that all suppliers comply with this specification and comply with the law set up relevant sanitary equipment to ensure that employees have sufficient sanitary equipment to use. ***REF025: Tap water penetration rate report*** ***REF026: Total sewage treatment rate report***	
1.6.3	Future water issues shall be identified, including anticipated impacts and trends. (3 points)	The amendment to the "Water Conservancy Law" was officially passed on May 6, 2016 in Taiwan. It is planned to levy a "water consumption fee" for water users who use more than a certain amount of water, based on the water consumption and the appropriate water level rate. , The purpose is to guide major industrial water users to save water. Large water-consuming households such as the electronics industry will be the key targets for the levy of water consumption fees. For those who have implemented water-saving measures, the levy may be reduced; including those who have reached the government announced process water and the water recovery rate of the whole plant, and those who have completed the water footprint verification in accordance with ISO, etc., can get 2%-20% Varying tax reductions, the cumulative tax reduction can be up to 60%. Water issues and management have gradually become the core of the global sustainable development issues. The company not only pays attention to its own continuous operation, but also gradually increases the supply chain	**3**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
		management of various aspects to the outside of the company, such as the risk management of water resources in the international supply chain, so as to achieve the multi-party mutual benefit of the company itself, the supply chain, and other stakeholders. As a result, Unimicron's customers are becoming more and more concerned about water-related issues. Recently, their customers have requested the company to fill out the CDP-water questionnaire and make it public, so that all stakeholders can learn about the company's water-related information. ***REF031: Response to 2019 CDP-water questionnaire***	
2	Commit and Plan (advanced)		
2.1.2	A statement that explicitly covers all requirements set out in Indicator 2.1.1 and is signed by the organization's senior-most executive or governance body and publicly disclosed shall be identified. (1 point)	A water stewardship commitment to follow all the AWS criteria has been signed by Unimicron's CEO. The commitment has been displayed on Unimicron's website: https://www.unimicron.com/csr/ch/ebook_list_policy.html ***REF032: Unimicron Occupational Safety, Health and Environmental Resources Policy***	**1**
2.3.3	The site's partnership/water stewardship activities with other sites within the same catchment (which may or may not be under the same organisational ownership) shall be	Unimicron Shanying Plant has implemented water management system verification in response to customer requirements in 2019. The four plants in the area (Shanying Plant, Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant.) have tight water and drainage Inseparable; through the support of senior management (with signature as evidence), an implementation team was established to extend the establishment and implementation of this management system to the surrounding three factories Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant. .	**0**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
	identified and described. (4 points)	The four factories are expected to complete the verification work together in 2020; in the future, Unimicron also plan to transfer the implementation experience of the management system to the group factories in parallel. ***REF035: Senior Management approved four plants to implement AWS.***	
2.3.4	The site's partnership/water stewardship activities with other sites in another catchment(s) (either under same corporate structure or with another corporate site) shall be identified. (4 points)	In the future, Unimicron also plan to transfer the implementation experience of the management system to the group factories in parallel.	**0**
2.3.5	Stakeholder consensus shall be sought on the site's water stewardship plan. Consensus should be achieved on at least one target. A list of targets that have consensus and in which stakeholders are involved shall be identified. (7 points)	Due to customer requirements, the AWS management system was introduced and the surrounding group factories (Jingtzai 1st Plant, Jingtzai 2nd Plant and Jingtzai 3rd Plant) were invited to join together, hoping to implement water management operations in the plant more thoroughly. The approval documents by Senior Management to approve four plants to implement AWS was verified. ***REF035: Senior Management approved four plants to implement AWS.***	**7**
2.4.2	A plan to mitigate or adapt to water risks associated with climate change projections developed in	Unimicron will reference the existing Shanying Plant and surrounding companies' emergency response plan to consolidate as comprehensive emergency response plan.	**0**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
	co-ordination with relevant public-sector and infrastructure agencies shall be identified. (6 points)	***REF036: Business plan for handling disaster (pollution) incidents in industrial zones (ports) under the jurisdiction of the Industrial Bureau of the Ministry of Economic Affairs*** ***REF037: The natural disaster notification principles of the Industrial Development Bureau*** ***REF038: Management Measures in Response to Typhoons and Heavy Rain_ Unimicron Taoyuan Factory***	
3	Stewardship strategy and plan (advanced)		
3.1.3	Evidence of improvements in water governance capacity from a site-selected baseline date shall be identified. (2 points)	Baseline date: 2019/01/01 The audit interval is from 1 January to 31 Dec. 2019. Water governance capacity improvement: Water intensity per unit of revenue dropped from 258 (tons/million yuan) in 2018 to 245 (tons/million yuan) in 2019. In order to strengthen the skills of the personnel of the Safety and Environmental Protection Department and improve the knowledge and quality of the personnel, it is necessary to arrange and plan the education and training of the personnel. The training courses are divided into two types: external training and internal training. The external training courses are mainly for legal or business needs to be received by external training institution, In-house training is conducted by people who have reached the level of proficiency in the plant as lecturers, imparting relevant knowledge and teaching. Employees who want to accept the above courses and with the consent of the supervisor can apply for business leave during working hours. ***REF039: Y2019 intensity of water consumption per unit revenue*** ***REF045: EA03-003 Ministry of Environmental Safety Education and Training Procedures***	**2**
3.1.4	Evidence from a representative range of stakeholders showing	The stakeholders of Unimicron Shanying Plant include NGOs (Non-Governmental Organizations), corporate customers, suppliers/contractors	**0**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
	consensus that the site is seen as positively contributing to the good water governance of the catchment shall be identified. (2 points)	(equipment, raw materials, labour services), residents of nearby communities, government/competent agencies, employees, academic units, etc. Unimicron participate in the policies and activities implemented by government agencies and customers. In the activities, the company has also achieved good results as stated below: 1. ASE Group, a major Taiwan semiconductor manufacturer, promises to establish supplier partnerships. ASE audit its suppliers in CSR every year. The performance of the field is evaluated, include water resources management (fresh water consumption, water saving goals, wastewater discharge trends, etc.). The Unimicron 's Jingzai 1st Plants was awarded the "Supplier Sustainability Excellence Award" by ASE Group in 2019. 2. Taoyuan City has formulated the "Taoyuan City Autonomous Regulations for the Development of Low-Carbon Green Cities", requiring companies of a certain size to purchase environmental protection products first and make online declarations. Unimicron responds to the government green products purchased under the policy include water-saving and energy-saving labels and recycled products. The water-saving products include water-saving faucets and two-stage water-saving toilet devices, which can reduce the daily fresh water consumption after installation; awarded by Taoyuan City Government in 2019 Commendation for "Excellent Unit in Green Procurement". 3. With the support of senior supervisors and customers, Unimicron want to conduct AWS water management system verification to strengthen and fully present the results of water management in the plant. ***REF046: Unimicron in water/ environmental protection related award***	
3.5.2	Evidence of completed restoration of non-functioning or severely	Unimicron collect and verify the relevant information of important water-related areas (Shimen Reservoir and Dongmen Creek) defined by the plant. There has been no serious deterioration in recent years, but organizing activities in the area	**0**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
	degraded Important Water-Related Areas including where appropriate cultural values from a site-selected baseline date shall be identified. Restored areas may be outside of the site, but within the catchment. (6 points)	(Shimen Reservoir) to promote environmental awareness fun games. Through small games to promote information such as waste non-landing, waste classification, etc. to employees/families, etc., to reduce the occurrence of water environment pollution caused by poor human habits. In addition, Unimicron also regularly conduct independent water collection for Dongmen Creek to analysis and continuous observation of the water quality of the creek. When an abnormal condition of the water quality occurs, it can immediately respond with the local environmental protection bureau to achieve the purpose of protecting the environment together with government agencies. ***REF047: Environmental Education Awareness Promotion in Shimen Reservoir in 2017~2019***	
3.5.3	Evidence from a representative range of stakeholders showing consensus that the site is seen as positively contributing to the healthy status of Important Water-Related Areas in the catchment shall be identified. (2 points)	Unimicron Jingzai 1st Plant attended the selection of the ROC Enterprise Environmental Protection Award handled by the Environmental Protection Department of the Executive Yuan in 2011. According to the specifications in the selection guide, the three aspects include environmental protection planning and management, and environmental protection work implementation, environmental protection concept implementation and education promotion and submission of relevant materials. Unimicron mentioned in the selection book the introduction of the biological center and ecological pool process. During the review process, Unimicron also arranged for the review team to visit the company's important water related areas (wastewater treatment plant , Biological Center, Ecological Pool). At the end, Jingzai 1st Plant won 2011 Corporate Environmental Protection Award. In addition, the biological center and ecological pool in important water-related areas in the plant have been opened for many visits with Epson. ***REF048: External guest and reviewer visited biological center and ecological pool***	**0**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
3.6.3	A list of actions taken to support the provision to stakeholders in the catchment of access to safe drinking water, adequate sanitation and hygiene awareness shall be identified. (5 points)	Due to the frequent spread of influenza and dengue fever in recent years, Unimicron have promoted life safety and health to employees through the company's internal website, bulletin boards, TV walls and other channels in the factory. Unimicron also printed posters on related issues and posted them in the bus shelters next to the plant and fence to promote with the people and contractors who pass by the plant area. Thus that they can understand the life prevention practices, and take the relevant knowledge back home and practice them to maintain good health and environmental hygiene. ***REF049: WASH awareness promotion***	**5**
3.7.3	Actions taken to address water related risks and challenges related to indirect water use outside the catchment shall be documented and evaluated. (5-7 points)	Unimicron uses the " Unimicron Social Responsibility Evaluation Form" to evaluate suppliers including water management and other related evaluations. In addition, Unimicron also shareed water-related information with suppliers who have undergone on-site audits in 2019. A statistical table of common deficiencies in supplier audits in 2019 had been filed. The common deficiencies are related to rain gutter management. Unimicron reminded suppliers to pay attention to the management of rain gutters to avoid pollution of surrounding water environment due to abnormal conditions. ***REF042: The non-conformity items for 2019 supplier audit*** ***REF043: Unimicron CSR audit form***	**6**
3.9.6	Achievement of identified best practice related to targets in terms of good water governance shall be quantified. (8 points)	The long-term goal of the Unimicron's water resources management is "to maintain the intensity of water consumption per unit revenue below 310". It is hoped that through the improvement of production processes and equipment, the efficiency of water use and the amount of water recovered will be improved, thereby reducing water costs. In order to achieve the water-saving goals set by the group, each plant has put forward relevant water-saving plans. In 2019, each plant proposed a total of 26 plans, and all water-saving plans have been implemented.	**8**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
		Observing the trend of water consumption in this verification site in the past year, water consumption varies with production conditions. Looking at the overall water consumption situation in the year, the water consumption per unit of revenue has been maintained within a certain level, and it has reached the long-term water intensity target set by the group. ***REF039: Y2019 intensity of water consumption per unit revenue*** ***REF028: Water saving projects list***	
3.9.7	Achievement of identified best practice related to targets in terms of sustainable water balance shall be quantified. (8 points)	Best practice goal of water balance: "Maintain the intensity of water consumption per unit revenue below 310" Achievement status: Unimicron improved the production process and equipment to improve the efficiency of water use and the amount of water recovered, thereby reducing water costs. According to statistics, a total of 26 water-saving programs proposed in the Shanying plant in 2019 have been completed. With the increase in production capacity, the water consumption of the plant has also increased compared with previous years. Site water consumption intensity per unit revenue has not increased but decreased, from 341 in 2018 to 278.4 in 2019. Water efficiency has been effectively improved. ***REF039: Y2019 intensity of water consumption per unit revenue*** ***REF028: Water saving projects list***	**8**
3.9.8	Achievement of identified best practices related to targets in terms of water quality shall be quantified. (8 points)	Best practice goal: According to the "Taoyuan City Nankan Stream Wastewater Copper Discharge Total Control Method", the copper discharge limit of existing factories in the first-level total control zone has been revised to 1.5mg/l. At present, the effluent concentration of the plant in the Shanying plant is lower than the legal standard. The quality of the Unimicron 's wastewater discharge is far below the discharge standard, and no water-related fines have been generated in the past three years.	**8**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
		REF004: Water quality analysis report ***REF030: Environmental Protection Penalty Record***	
3.9.9	Achievement of identified best practices related to targets in terms of the site's maintenance of Important Water-Related Areas have been implemented. (8 points)	Chaoyang Park: Unimicron conduct self-collection and sampling and analysis of the river every quarter, and continue to observe the water quality of the stream. When the water quality is abnormal, Unimicron can immediately respond to the local environmental protection bureau to reach the government agency The purpose of protecting the environment together. Shimen Reservoir: Shimen Reservoir is the water source of Dayan Water Purification Plant. In order to protect the water source, Unimicron has organized activities at "Shimen Reservoir" every year since 2017. In order to enable participants to understand the impact of environmental protection on the environment and water resources and bring the knowledge home to achieve the purpose of sharing environmental protection knowledge and rooting down. A total of 52 participants in the 2019 event are counted.	**0**
3.9.12	A list of collective action efforts, including the organizations involved, positions of responsible persons of other entities involved, and a description of the role played by the site shall be identified. (8-14 points)	Unimicron was invited by the "Taiwan Printed Circuit Board Association" to participate in the compilation of the "ECO Master Campus Sharing Session-Environmental Education" textbook and serve as a lecturer. In the past five years, Unimicron have served 40 schools and 3,516 students, hoping to convey the correct knowledge of environmental protection to students. Unimicron also handles a number of beach cleaning activities, leading colleagues and family members to participate in beach cleaning activities organized by government agencies and the surrounding patrol team of the plant. So that everyone can clean the marine garbage and understand the impact of the arbitrary disposal of garbage on the ocean and other organisms. ***REF050: Beach cleaning activities and Environmental Education activity***	**8**
3.9.13	Evidence of the quantified improvement that has	From 2018 to 2019, Unimicron also participated in a total of 7 beach cleaning activities in the downstream of Nankan Stream and other coastal areas.	**3**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
	resulted from the collective action relative to a site-selected baseline date shall be identified and evidence from an appropriate range of stakeholders linked to the collective action (including both those implementing the action and those affected by the action) that the site is materially and positively contributing to the achievement of the collective action shall be identified. (3-10 points)	Since 2017, Unimicron has been organizing health promotion activities at the water source "Shimen Reservoir" every year, inviting company colleagues and family members to participate in road running activities in the reservoir. From 2018 to 2019, a total of 2 Shimen Reservoir environmental education promotion activities were conducted. ***REF050: Beach cleaning activities and Environmental Education activity***	
4	Evaluate (advanced)		
4.1.4	A governance or executive-level review, including discussion of shared water challenges, water risks, and opportunities, and any water-related cost savings or benefits realized, and any relevant incidents shall be identified. (3 points)	Unimicron conducted management review meeting every year to report the water-related management matters during the meeting. The chairman is a high-level management representative and relevant members are invited to participate. During Management Review Meeting held on 4 Oct. 2019, the presentation mentioned water-related cost savings or realized benefits. However, water challenges, water risks and opportunities didn't be described. The company review and evaluates water-related management status, risks and opportunities every year, and summarizes the information to report to the senior management. After the senior management confirms it, the team will prepare the CDP-water questionnaire again, uploads the information and makes it public. All stakeholders can obtain the above information.	**3**

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
		REF031: Response to 2019 CDP-water questionnaire ***REF051: Mmanagement review meeting presentation***	
4.3.2	The site's efforts to address shared water challenges shall be evaluated by stakeholders. This shall include stakeholder reviewing of the site's efforts across all five outcome areas, and their suggestions for continual improvement. (6 points)	Unimicron Unimicron Shanying Plant had demoed their effort across all five outcomes area stated as below: GOOD WATER GOVERNANCE: • Perfect personnel training mechanism • Completed processing procedure SUSTAINABLE WATER BALANCE: • Open to public and quantifiable water efficiency goals and update current status • Continuous improvement to improve water efficiency GOOD WATER QUALITY STATUS: • Higher and stable discharge water quality IMPORTANT WATER-RELATED AREAS • Environmental education and publicity in important water-related areas, and environmental awareness takes root down SAFE WATER, SANITATION AND HYGIENE FOR ALL (WASH) • Provide a safe and hygienic environment and drinking water for the personnel on the site. All the supporting documents had been reviewed. ***REF052: Supporting documents for five outcomes area***	**6**
5	Communicate & Disclose (advanced)		

Indicator	Details (AWS Advanced-Level Criteria)	Evidence	Score
5.3.2	The site's efforts to implement the AWS Standard shall be disclosed in the organization's annual report. (1 point)	Unimicron confirmed to conducted AWS certification in Q4 2019. This activity didn't state in 2019 CSR report. However, The CDP-water questionnaire W-FI mentioned that "The company's specific plant has reached a consensus and commitment with stakeholders (customers), and it is expected to complete the AWS water management system verification in 2020." ***REF031: Response to 2019 CDP-water questionnaire***	**1**
5.3.3	Benefits to the site and stakeholders from implementation of the AWS Standard shall be quantified in the organization's annual report. (1 points)	In order to comply with the company's policies and meet customer needs and AWS water management requirements, Shanying 1st Plant began to actively implement water-saving activities in Q4 of 2019. The water consumption per unit area of the plant in the second half of the year was reduced compared with the first half of the year. Unimicron also calculated the water consumption per unit revenue of the four plants, the number is from 341 in 2018 to 278.4 in 2019 (tons/million turnover), a reduction of 18%. The overall water intensity of the Unimicron in 2019 was also 4.7% lower than that in 2018. The relevant information is stated on page 67 of the 2019 Corporate Social Responsibility Report. ***REF039: Y2019 intensity of water consumption per unit revenue***	**1**
Total			**88**

6 AUDIT FINDINGSCONCLUSIONS AND RECOMMANDATIONS

Six minor non-conformities were raised during the audit process. They were considered partially meeting the AWS Core criterion requirement, and some small adjustments were requested to make to the documentation in order to be considered fully compliant. The following table 6.1 shows the details of the minor non-conformities and required new information.

Table 6.1 Minor Non-Conformities Raised during the AWS Audit Process

No.	Type	Ref.	Details	Response by Unimicron Shanying Plant	Relevant Reference
1	Minor Non-Conformance	01MINCAR	Indicator 3.7.1 Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified. Unimicron's supplier audit is only confirming supplier's water use target and didn't check the target achievement result. it is unclear for indirect water use target is to audit suppliers energy saving target or just complete the audit.	2019 The company's indirect water management target for suppliers to conduct on-site audits. We use the CSR team to provide business audit accomplishes this goal. During the audit process, the company require suppliers to collect data to understand their own water consumption and encourage them looking for water saving opportunities. Among the suppliers audited in 2019, Taiwan Rohm and Haas Electronic Materials Co., Ltd. has begun its own water management, and set a goal of wastewater recycling water reuse> 50%. Reuse RO wastewater to flush toilets and cooling towers to achieve target.	***REF043: Unimicron CSR audit form***

No.	Type	Ref.	Details	Response by Unimicron Shanying Plant	Relevant Reference
2	Minor Non-Conformance	02MINCAR	Indicator 1.6.1 Shared water challenges shall be identified and prioritized from the information gathered. Unimicron analysis the stakeholders' questionnaire remove the score less than 4. It will affect "Shared water challenges" analysis results.	Ttotal 429 questionnaires. All questionnaires have been included in the analysis.	***REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron REF003 Stakeholders Questionnaire Analysis Report***
3	Minor Non-Conformance	03MINCAR	Indicator 2.3.2 Water stewardship plan shall be identified, including for each target. Unimicron didn't provide the 2019 energy-saving measures plan for the plant.	The 2019 Energy Saving Project is provided.	***REF028: Water saving projects list***
4	Minor Non-Conformance	04MINCAR	Indicator 4.1.1 Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated. Unimicron didn't provide the supporting evidence for 26 water-saving plans.	The 2019 Energy Saving Project is provided.	***REF028: Water saving projects list***

No.	Type	Ref.	Details	Response by Unimicron Shanying Plant	Relevant Reference
5	Minor Non-Conformance	05MINCAR	Indicator 4.1.2 Value creation resulting from the water stewardship plan shall be evaluated. Unimicron didn't make any comparison between 2018 with 2019 value to quantify the improvement achievement.	Unimicron set a long-term goal of water resources management as "unit revenue water resources consumption intensity remains below 310". According to statistics in 2019, the amount of investment in the water-saving project in the four plants in Shanying Plant was NT$ 1.24 million. The total water savings of each project is about 490,000 metric tons, which can reduce 31.22 T Co2e. Although the water consumption of the plant varies with the production status, Unimicron strive to do a good job of water control and maintain water consumption per unit of revenue at a certain level. The statistics are carried out by the four plants. The unit revenue water consumption intensity decreased from 341.0 in 2018 to 278.40 in 2019, a decrease of 18% compared with the previous year. The target was achieved. In the furture, we will continue to work hard to control water use .	***REF039: Y2019 intensity of water consumption per unit revenue***
6	Minor Non-Conformance	06MINCAR	Indicator 4.1.3 The shared value benefits in the catchment shall be identified and where applicable, quantified.	Unimicron was invited by "Taiwan Printed Circuit Board Association" to participate and compile the teaching materials with "ECO Master Campus Sharing Session Environmental Education" served as a lecturer. The activity covered the elementary and middle schools that within Shimen Reservoir water supply area and	***REF050: Beach cleaning activities and Environmental Education activity***

No.	Type	Ref.	Details	Response by Unimicron Shanying Plant	Relevant Reference
			Unimicron didn't provide the shared value benefits in the catchment.	Nankan stream Basin to conduct environmental education promotion. The learning material content includes global warming and environmental protection and water environment. It is hoped that this will convey the correct knowledge of environmental protection to school children and extend it to the family so that environmental awareness can take root down. There are 40 schools and 3516 students in the past five years had participate. In addition, to protect to protect the cleanliness of the basin and surrounding environment, Unimicron invites colleagues and relatives participate the beach cleaning activity that initiated by government agencies and river patrol teams. This is to let everyone work together to clean up the marine garbage, solve the impact of arbitrary disposal of garbage on the marine environment and organisms and develop a good habit of caring for the environment. Unimicron has participated in the past three years, a total of 9 beach cleaning activities in the downstream of Nankan Stream and other coastal areas.	

7 SUMMARY

Based on the review of documents presented by Unimicron Shanying Plant, the interview with Unimicron Shanying Plant's managers and employees, the interview with local stakeholders, and the site observation, Unimicron Shanying Plant has paid great attention to its water stewardship. A considerable quantity of effort and work has been put into the preparation for the audit of AWS certification.

Six minor non-conformities were raised during the audit process. They were considered partially meeting the AWS Core criterion requirement, and some small adjustments were requested to make to the documentation in order to be considered fully compliant. Unimicron Shanying Plant has provided SGS acceptable corrective action plans to address all minor non-conformities. We will further ascertain their compliance to the AWS Standard when performing the surveillance assessement in 2021.

In addition, according to the conformity assessment of Unimicron Shanying Plant's performance against the AWS advanced-level criteria, the total of Unimicron Shanying Plant's cumulative advanced-level criteria scores is 88, which is up to the AWS Platinum level.

8 OPPORTUNITIES FOR IMPROVEMENT

This is the initial conformity assessment for Unimicron Shanying Plant against the AWS Standard, and more attention is paid to the documented plan and implementation to date. Less focus was placed on the evaluation of Unimicron Shanying Plant's performance against the indicators as this was the first year of operation under the intention of conformity to the AWS Standard. Therefore, it allows for many areas for improvement going forward.

Besides the follow-up of implementation of corrective action plans to address all minor non-conformities, the future audits will additionally evaluate Unimicron Shanying Plant's performance against the AWS Standard indicators and how this is monitored and presented as compliance. Thus, SGS recommends that Unimicron Shanying Plant develop practicable ways to monitor its performance against the AWS Standard indicators, and keep relevant records in anticipation of future audits.

9 CONCLUSION AND RECOMMANDATIONS

Given the review of evidence presented and the site observation performed at Unimicron Shanying Plant, SGS recommends that Unimicron Shanying Plant be awarded the AWS Platinum Certified status with a surveillance audit interval of annual frequency.

10 REFERENCE

REF001: Sustainable Water Management Catchment Report_Nankan Creek_Unimicron

REF002: Water-related infrastructure List

REF003 Stakeholders Questionnaire Analysis Report

REF004: Water quality analysis report

REF005: Analysis of the influence and participation of stakeholders

REF006: Stakeholders' influence and participation model

REF007: EA42-014 Emergency Response Operation Specification for Water Shutoff

REF008: EA13-001 Environmental Emergency Response Management Operation Procedure

REF009: Water Balance Map in 2019.

REF010: Y2019 water consumption fluctuation chart

REF011: Y2019 Jingtzai 3rd Plant WWTP and Jingtzai 2nd Plant WWTP effluent water qualify analysis report.

REF012: Chemical storage area and WWTP

ERF013: On-site IWRA

REF014: Manufacture, social and environmental water-related activities cost

REF015: Evaluating Access to Water, Sanitation and Hygiene (WASH) at the Workplace

REF016: WASH inventory Data

REF017: Building legal requirements

REF018: Water consumption and wastewater quality related to each main raw material

REF019: Outsourcing services- cleaning of clean clothes data

REF020: Taoyuan City Nankan Stream Water Environment Improvement Project

REF021: Dongmen creek water purification treatment news release

REF022: Applicable water-related legal and regulatory requirements

REF023: Groundwater rights list

REF024: Chaoyang Forest Park location

REF025: Tap water penetration rate report

REF026: Total sewage treatment rate report

REF027: Water risk ranking

REF028: Water saving projects list

REF029: The water consumption per unit area in each month

REF030: Environmental Protection Penalty Record

REF031: Response to 2019 CDP-water questionnaire

REF032: Unimicron Occupational Safety, Health and Environmental Resources Policy

REF033: Unimicron Y2023 long-term goals

REF034: Unimicron response plan for “The total amount of heavy metal discharge control measures in the stream basin of Taoyuan City”

REF035: Senior Management approved four plants to implement AWS.

REF036: Management Measures in Response to Typhoons and Heavy Rain_ Unimicron Taoyuan Factory

REF037: Environmental Protection Activity List

REF038: Four Plants’ pollutant discharge permit

REF039: Y2019 intensity of water consumption per unit revenue

REF040: The internal control values of the Biological Center

REF041: Unimicron response plan for “The release of Cu control in the biological center”

REF042: The non-conformity items for 2019 supplier audit

REF043: Unimicron CSR audit form

REF044: EHS Department external communication documents list

REF045: EA03-003 Ministry of Environmental Safety Education and Training Procedures

REF046: Unimicron in water/ environmental protection related award

REF047: Environmental Education Awareness Promotion in Shimen Reservoir in 2017~2019

REF048: External guest and reviewer visited biological center and ecological pool

REF049: WASH awareness promotion

REF050: Beach cleaning activities and Environmental Education activity

REF051: Mmanagement review meeting presentation

REF052: Supporting documents for five outcomes area

REF053: Environmental Management System Manual

REF054: Organization Chart

REF055: The environmental specialist list

REF056: 2019 Corporate Social Responsibility Report