

碳足跡查驗意見書

查驗標的產品

電源供應器

以上產品碳足跡計算之提供者為

海韻電子工業股份有限公司

臺北市內湖區內湖路一段 360 巷 17 號 8 樓

本公司確認以生命週期評估數據為基礎

依據 ISO 14064-3:2019 完成查驗，提出經修改之查驗意見，其符合下列標準要求

ISO 14067:2018

產品的生命週期評估範疇

Cradle to Gate 企業對企業

簽署人



鮑柏宇

管理與保證事業群副總裁

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TGP57-15-16 2601

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**CARBON
FOOTPRINT**

Sustainability Services

產品名稱	電源供應器			
宣告單位	每台			
功能單位	—			
生命週期溫室氣體排放量				
查驗標的產品宣告單位排放量 (單位: 公斤二氧化碳當量)				功能單位排放量 (單位: 公斤二氧化碳當量)
生命週期階段	原料	製造	總和	
FOCUS GX-1000(ATX3)	65.224	0.991	66.21	—
Prime PX-1600(ATX3)	116.667	1.697	118.36	—

台灣檢驗科技股份有限公司(以下簡稱SGS)，經與海韻電子工業股份有限公司(以下簡稱海韻電子)，臺北市內湖區內湖路一段360巷17號8樓，達成雙邊協議，依據ISO 14064-3:2019之要求執行ISO 14067:2018產品生命週期溫室氣體排放量之查驗，查驗意見內容說明如下：

角色與責任

- 海韻電子負責管理產品生命週期溫室氣體排放量盤查系統之記錄收集、維護和盤查報告的揭露，包括產品生命週期溫室氣體排放量資訊、排放量計算和判斷的報告。
- 簽約時間：SGS 秉持第三方查驗單位之準則，依據 2025 年 07 月 08 日簽訂雙邊協議
- 查驗準則：ISO 14067:2018 溫室氣體 - 產品碳足跡 - 量化要求和指引
- 查驗區間：2026 年 05 月 04 日至 2026 年 05 月 28 日

查驗範圍

- 產品生命週期溫室氣體排放量資訊涵蓋週期：2025 年 01 月 01 日至 2025 年 12 月 31 日
- 查驗之產品活動：查驗海韻電子之產品如下：
 - FOCUS GX-1000(ATX3)
 - Prime PX-1600(ATX3)
- 產品製造地點：
 - 東莞海韻電子有限公司
廣東省東莞市石碣鎮桔洲第三工業區榮華路 11 號
- 產品類別規則：無
- 功能單位：無
- 宣告單位：每台
- 系統邊界：涵蓋了從企業對企業的生命週期的排放評估作業，系統邊界明確界定按照 ISO 14067:2018 之規範。排放之溫室氣體以 ISO 14067:2018 所述項目為基礎。
- 生命週期使用評估軟體：無
- 一級數據來源：主要來源為製造階段以及營運控制階段。
- 二級數據之資料庫來源：產品碳足跡資訊網、Ecoinvent 3.12、中國產品全生命週期溫室氣體排放係數庫。
- 生命週期評估工具和指標：
 - 使用 EXCEL 進行生命週期排放量的計算
 - 應用 IPCC 2021 年第六次評估報告之全球暖化潛勢數值進行計算
- 保證等級：依據查驗準則及雙邊協議執行查驗程序，未違反實質性差異門檻，符合主管機關認可之有限保證等級。
- 實質性差異門檻判斷準則：5%

查驗目標

SGS獨立客觀的取得支持產品碳足跡溫室氣體主張揭露資訊的佐證，確保報告資訊符合準確性、完整性、一致性及透明度之準則。

結論

- SGS 採用風險評估方法為基礎，確保並控管產品生命週期溫室氣體排放資訊揭露風險；規劃及執行查驗流程，包含行前評估、取樣計畫、證據之蒐集，取得查驗意見需要之資訊、說明及相關佐證，確保溫室氣體聲明中的現場溫室氣體排放量無實質的錯誤聲明。
- 查驗意見：SGS 根據下述狀況，提出經修改之查驗意見。
 - 查驗者有充分且適當的證據支持實質的排放量、移除量或儲存。
 - 查驗者針對實質的排放量、移除量或儲存採取適當的準則。
 - 當查驗者擬依賴相關管制時，管制之有效性已經過評估。
 - 查驗者採用 ISO 14067:2018 準則，經查驗有以下發現事項，然經調整修正後，無產生實質性錯誤。
 - 已提供適當證據支持經修正意見。
 - 活動數據已依據支持證據進行修訂。
- 保留限制：無

保密性聲明

此意見及附件可能包含屬於海韻電子之機密資訊，未經海韻電子書面同意，其他個人、團體或公司禁止自行複製或發行。

利益衝突迴避聲明

此意見及附件內容完全依照主管機關之標準方法與程序等相關規定，秉持公正、誠實進行查驗作業，絕無虛偽不實。本公司與受查驗單位並無財務投資之關係，且符合主管機關對利益衝突迴避之要求。

查驗團隊

上述意見係查驗團隊依據公正之查驗過程，針對海韻電子之碳足跡主張所提出之意見。

主導查驗員：

曾偉編

查 驗 員：

黃玉如

紀元婷

查 驗 員：

林千鈺

本查驗意見書之有效期間為兩年，海韻電子應依標準條文之規範於適當時機重新評估產品生命週期溫室氣體排放量。

備註：本查驗意見遵照SGS溫室氣體/碳足跡查驗服務條款要求http://www.sgs.com/terms_and_conditions.htm，意見書內容由台灣檢驗科技股份有限公司依據碳足跡主張之查驗結果進行編製，業經客戶同意後發行。本意見書非用以解除客戶遵守組織章程、全國或者地方法令，以及任何被發佈國際指南章程之責任；客戶與SGS彼此為獨立之個體，客戶非受SGS約束，在此SGS除客戶之外毋須代表其面對其他組織團體。

Product Carbon Footprint Verification Opinion

The Inventory of Product Carbon Footprint of Power Supply

which is calculated by

Sea Sonic Electronics Co., Ltd.

8F., No. 17, Ln. 360, Sec. 1, Neihu Rd., Neihu Dist., Taipei, Taiwan, R.O.C.

Based on life cycle assessment verified in accordance with ISO 14064-3:2019 as
meeting the requirements of

ISO 14067:2018

Opinion Type: Modified

Basis of Assessment

Cradle-to-Gate

Authorized by



Stephen Pao

Business Assurance Director

Version 1

Issue Date: 04 August 2026

Valid Date: 03 August 2028

TGP57-15-16 2601

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Product Name	Power Supply			
Declared Unit	Per Unit			
Functional Unit	—			
Life cycle GHG emissions				
Declared Unit emissions (Unit: kilograms of CO ₂ e)				Functional Unit emissions (Unit: kilograms of CO ₂ e)
Life Cycle Stage	Material	Manufacture	Total	
FOCUS GX-1000(ATX3)	65.224	0.991	66.21	—
Prime PX-1600(ATX3)	116.667	1.697	118.36	—

SGS has been commissioned by Sea Sonic Electronics Co., Ltd. (hereinafter referred to as “Seasonic”), 8F., No. 17, Ln. 360, Sec. 1, Neihu Rd., Neihu Dist., Taipei, Taiwan, R.O.C. to conduct the life cycle Greenhouse Gas (hereinafter referred to as “GHG”) emissions verification of product in accordance with ISO 14064-3:2019 against the requirements of

ISO 14067:2018

Roles and responsibilities

- The management of Seasonic is responsible for the organization’s GHG information system, the development and maintenance of records and reporting procedures in accordance with that system, including the calculation and determination of the life cycle GHG emissions for product information and the reported life cycle GHG emissions of the product.
- Contract Date: The verification was based on the verification scope, objectives and criteria as agreed between Seasonic and SGS on 08 July 2025.
- Verification Standard: ISO 14067:2018
Greenhouse gases- Carbon footprint of products- Requirements and guidelines for quantification
- Verification Period: 04 May 2026 to 28 May 2026.

Scope

- GHG information for the following production period was verified : 01 January 2025 to 31 December 2025.
- Title or description of activities : Product carbon footprint verification of the Cradle-to-Gate life cycle GHG emissions manufactured by Seasonic:
 - FOCUS GX-1000(ATX3)
 - Prime PX-1600(ATX3)
- Manufacturing location :
 - Dongguan Seasonic Electronic Co., Ltd.
 - No.11, Ronghua Road, Third Industrial Zone, Juzhou, Shijie Town, Dongguan City, Guangdong, P.R.C.
- Product Category Rule : Nil.
- Functional unit : Nil.
- Declared unit : Per Unit
- System boundary : Covers a Cradle-to-Gate assessment of the full life cycle emissions; the system boundary was clearly defined in accordance with ISO 14067:2018. All GHG’s enlisted on ISO 14067:2018.
- Life cycle assessment software : Nil.

- Data resources : The primary data collection is from manufacturing and operational control phases. The secondary data collection is from Carbon Footprint Information Platform, Ecoinvent 3.12, CPCD, China Products Carbon Footprint Factors Database.
- Life cycle assessment tool and index :
 - Life cycle emissions are calculated by Excel.
 - IPCC 2021 AR6 GWP values are applied in this inventory.
- Level of assurance: In accordance with verification criteria and the execution of verification procedures based on bilateral agreements, the process aligns with the materiality requirements and the limited assurance level recognized by authorities.
- Materiality : 5%.

Objective

The purpose of this verification exercise is, by review of objective evidence, to independently review:

- Whether the life cycle GHG emissions of the product are as declared by the organization's GHG assertion.
- The data reported is accurate, complete, consistent, transparent and free of material error or omission.

Conclusion

- SGS's approach is risk-based, drawing on an understanding of the risks associated with reporting the life cycle GHG emissions of product information and the controls in place to mitigate these risks. Our examination included assessment and a test of evidence relevant to the amounts and disclosures in relation to the reported life cycle GHG emissions of the product. We planned and performed our work to obtain the information, explanations and evidence that the life cycle GHG emissions are free from material misstatement.
- Verification Opinion: the opinion of SGS is modified in accordance with the following described circumstances.
 - o The verifier has sufficient and appropriate evidence to support the material emissions, removals, or storage.
 - o The verifier applies appropriate criteria for the material emissions, removals, or storage.
 - o When the verifier intends to rely on relevant controls, the effectiveness of those controls has been assessed.
 - o The verifier, applying the ISO 14067:2018 standard, presents the following findings. After adjustments and corrections, no material errors were identified.
 - Adequate evidence has been provided to support the amended opinions.
 - The activity data has been revised based on supporting evidence.
- Retention Limitation: NA

Confidentiality

The reports and attachments may contain relevantly confidential information of the clients. In addition to being submitted as governmental application or certification documents, the reports and attachments are not allowed to be edited, duplicated, or published without the clients' agreement in written form.

Avoidance of Conflict of Interest

The reports and attachments are completely complied with the standards and procedures that related-authorities established. The reports and attachments of auditing process are conduct with fairness and honesty. If not, the auditing institution not only has to bear the relevant compensation duties, but also to receive legal charge and punishment.

Verifier Group

Above opinions coincide with auditing process with fairness and impartiality, and aim at the emission of clients.

Lead Verifier:

Victor Tseng

Verifier:

Bonnie Hung

Sophia Chai

Verifier:

Shelly Lin

This opinion shall be interpreted with the GHG assertion of Seasonic as a whole. This result shall be valid for a maximum period of two years, after which the GHG emission shall be re-assessed.

Note: This Opinion is issued, on behalf of Client, by SGS Taiwan Ltd. ("SGS") under its General Conditions for Green Gas Verification Services available at http://www.sgs.com/terms_and_conditions.htm. The findings recorded hereon are based upon an audit performed by SGS. This Opinion does not relieve Client from compliance with any bylaws, federal, national or regional acts and regulations or with any guidelines issued pursuant to such regulations. Stipulations to the contrary are not binding on SGS and SGS shall have no responsibility vis-à-vis parties other than its Client.