

# Delta Product Carbon Footprint Management

## 台達產品碳足跡管理

ISO 14067 verification statement

ISO 14067 查證聲明書



## Delta Product Carbon Footprint Management

Since 2010, Delta has selected several representative products to perform product carbon footprint research based on the Life Cycle Assessment methodology in accordance with PAS 2050 and ISO 14067 standards. They included the carbon footprint inventory of notebook external power supply units (adapters), DC fans, PV inverters, high efficiency rectifier modules, switching power supplies, and DC / DC modules for EV powertrains, for which third-party verification statements were obtained.

In 2022, the Supply Chain ESG Committee worked with all business groups to launch a comprehensive set of product carbon footprint projects. Each business group has established a working group to regularly report on their progress, including the parallel deployment of product carbon footprint calculations, examination of reduction practices for product life cycles, and case studies of green product design.

Delta has a large variety of products, and for this reason, we calculate our carbon footprint in separate stages. We expanded the product categories included in the inventory to adapters, power chokes, stators, DC fans, LED high bay, wireless APs, electric vehicle charger IC-CPDs, digital projectors, and integrated low-voltage DC brushless vehicle motors in accordance with ISO 14067 Product Carbon Footprint Standards. We also obtained third-party verification statements. We organized in-person training programs and online courses in 2023 to help employees understand product carbon footprints as well as build up their ability to respond to customer requirements. We also compiled lessons learned from the carbon footprint inventory and shared inventory tools and resources through internal announcements to accelerate the internal product carbon footprint inventory.

Delta released the “[Delta Group’s Product Carbon Footprint Strategies](#)” in 2022. In the mid-term, the program will independently improve product carbon footprint promotion capabilities, launch a quantitative plan, and establish a response mechanism for customer product carbon footprint requirements. In



the long-term, all important products will be included in Delta's product carbon footprint calculation platform to help develop low-carbon products. Delta will also continue to negotiate, communicate and encourage value chain partners to accelerate product carbon footprint reduction actions in compliance with international trends, customer demand, and relevant regulations.

The key measures implemented for product carbon footprint reduction are as follows:

1. Pay attention to developments in international carbon border taxes, complete inventories and calculation of the carbon footprint of products based on international standards, and ensure that the methodology and data quality comply with the regulations.
2. Establish a product carbon footprint implementation team in Business Units to strengthen product carbon footprint awareness and knowledge in all functional groups and facilitate the long-term development of low-carbon products.
3. Incorporate data from international carbon emission factor databases and set requirements for material suppliers to provide data on carbon emissions for continuous updates of Delta's carbon emissions database for materials.
4. Analyze product carbon footprint hot spots and opportunities for carbon reduction. Consider the use of circular business models, green product design, partnerships with low-carbon raw material suppliers, energy conservation and renewable power operation in plants, setup of green logistics, waste management, and others, to plan carbon footprint reduction actions.

## 台達產品碳足跡管理

台達自 2010 年開始，陸續依據 PAS 2050 及 ISO 14067 標準，挑選代表性產品以生命週期評估方法學執行產品碳足跡 ( product carbon footprint ) 研究，包括筆記型電腦外接電源供應器 ( adapter )、直流風扇 ( DC fan )、太陽能變流器 ( PV inverter )、高效整流模組 ( high efficiency rectifier module )、交換式電源



供應器 ( switching power supply ) 及電動車車載充電機 ( DC/DC module for EV powertrain ) 等產品碳足跡盤查，並取得第三方查證聲明書。

2022 年由供應鏈 ESG 委員會偕同各事業單位全面展開產品碳足跡專案，各事業單位成立工作小組定期報告推動進度，包括平行展開產品碳足跡計算、考量產品生命週期的減量作法、產品綠色設計案例等主題。

由於台達產品種類眾多，將分階段完成各類產品的碳足跡計算。依照 ISO 14067 產品碳足跡標準計算，擴大盤查的產品類型，包含開關電源 ( adapter )、電感 ( power choke )、定子組件 ( stator )、直流無刷馬達散熱風扇 ( DC fan )、天井燈 ( LED high bay )、無線基地台 ( wireless AP )、電動汽車充電控制器 ( charger IC-CPD )、數位投影機 ( projector )、整合式低壓直流無刷馬達 ( vehicle motor ) 等，並通過第三方查證。2023 年為擴大同仁們對產品碳足跡的認識及建立回應客戶需求能力，除辦理實體教育訓練及線上課程，亦將產品碳足跡盤查經驗整理後，藉由內部公告分享盤查工具及資源，協助加速內部產品碳足跡盤查作業。

台達於 2022 年發布「[台達集團產品碳足跡策略](#)」，中期將自主提升其產品碳足跡推動能力與展開量化計畫，並建立客戶產品碳足跡要求因應機制，長期則將所有重要產品納入台達產品碳足跡計算平台，幫助低碳產品研發並且持續議合、溝通及鼓勵價值鏈夥伴加速產品碳足跡減量行動，以符合國際趨勢、客戶要求及相關法規。

產品碳足跡減量推動之關鍵作法如下：

1. 關注國際碳邊境稅趨勢，依據國際標準盤查及計算產品碳足跡，確保方法學及數據品質符合規範。
2. 導入國際碳係數資料庫及同步要求材料供應商提供碳排數據，以持續更新台達材料碳排數據庫。
3. 建立事業單位產品碳足跡推動小組，由各事業單位深化產品碳足跡概念及知識至生命週期各功能群，以長期發展低碳產品。
4. 分析產品碳足跡熱點及減碳機會，考量循環商業模式、產品綠色設計、低碳原材料供應商合作、廠內節能及再生電力營運、綠色物流建立、廢棄物管理等方式規劃碳足跡減量行動。



# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50636649 0001**  
Report No. **48247335 001**

Certificate Holder: **CYNTEC CO., LTD.**  
No. 2, Yanfa 2nd Rd., Baoshan Township, Hsinchu Science Park, Hsinchu County  
300092, Taiwan  
including the sites according to annex

Validation & Verification Site:

Validation & Verification Body: **TÜV Rheinland Taiwan Ltd.**

Validation & Verification Standard: **ISO 14064-3:2019**

Programme: - Voluntary Carbon Footprint scheme

Level of Assurance: - Reasonable

Consolidation methodology: - Operational Control

Materiality: - 5%

LCA software or database: - SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8, 2006 IPCC Guidelines for National Greenhouse Gas Inventories

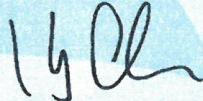
Analysis method: - IPCC 2021 GWP100 V1.01

Validation & Verification Scope: Based on the information we have received and evaluated that:

- Global warming potential (GWP): IPCC 2021, AR6
- Product category rules (PCR): N/A
- Product: Choke
  - Boundary: Cradle to Gate
  - Data period: 2023.01.01~2023.12.31
  - Functional / Declared unit: one gram. (Including package)
  - Model no. / Carbon emissions: Air-coil series (Annual Average) / 30.350 g CO<sub>2</sub>e
- Data and information
  - Historical in nature: Raw materials / Production
  - Historical in nature with scenario models: N/A
- Purchased: Renewable energy 36563.189 Mwh

Validity: This certificate is valid from 2024/09/05 until 2026/09/04  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2024-09-05

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd., Taipei  
105, Taiwan

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation



# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50649601 0001**  
Report No. **48249927 001**

Certificate Holder: **CYNTEC CO., LTD.**  
No. 2, Yanfa 2nd Rd., Hsinchu Science Park, Hsinchu County 300092, Taiwan  
including the sites according to annex

Validation & Verification Site:

Validation & Verification Body: **TÜV Rheinland Taiwan Ltd.**

Validation & Verification Standard: **ISO 14064-3:2019**

Programme: - Voluntary Carbon Footprint scheme

Level of Assurance: - Reasonable

Consolidation methodology: - Operational Control

Materiality: - 5%

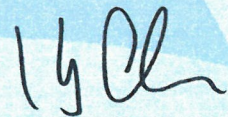
LCA software or database: - SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8, Carbon Footprint information platform  
(Owner: Taiwan MOENV), 2006 IPCC Guidelines for National Greenhouse Gas Inventories

Analysis method: - IPCC 2021 GWP100 V1.01

Validation & Verification Scope: Based on the information we have received and evaluated that:

- Global warming potential (GWP): IPCC 2021, AR6
- Product category rules (PCR): N/A
- Product: Power Module
  - Boundary: Cradle to Gate
  - Data period: 2023.01.01~2023.12.31
  - Functional / Declared unit: one gram. (Including package)
  - Model no. / Carbon emissions:  $\mu$ -POL (Annual Average) / 859.412 g CO<sub>2</sub>e
- Data and information
  - Historical in nature: Raw materials / Production
  - Historical in nature with scenario models: N/A
- Purchased: Renewable energy 3,246.958 Mwh

Validity: This certificate is valid from 2024/10/19 until 2026/10/18  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.



TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd., Taipei  
105, Taiwan

2024-10-19

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# Annex to certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50649601 0001**  
Report No. **48249927 001**

- Validation & Verification Site:
- 1~4F, No. 30, Sec. 2, Huandong Rd. Shanhua Dist., Tainan City 741014 Taiwan, R.O.C.
- Verification Method:
- Site visit, Interview, confirm operational behavior and procedures, Evaluation of ownership, Data and information aggregation process, trail, sampling, Control and estimate testing, Analytical procedures between production and emissions, Re-calculation and document review
- Verification opinions:
- Reasonable Assurance
- Modified opinion
    - there is sufficient and appropriate evidence to support material emissions, removals or storage;
    - the criteria are applied appropriately for material emissions, removals or storage;
    - the effectiveness of controls has been evaluated when the verifier intends to rely on those controls.
    - Modified procedures, calculation methods, data, factors or documents, there are have insignificant impact on materiality, intended users' understanding of GHG claims, modified (Please refer to the finding report for the detail revised items):
      - Calculation methods, Data, Factors, Documents



# Certificate

Inventory Standard **ISO 14067:2018**

Certificate Registr. No. **CO 50644004 0001**

Report No. **48248652 001**

Certificate Holder: **CYNTEC CO., LTD.**  
No. 2, Yanfa 2nd Rd., Baoshan Township, Hsinchu Science Park, Hsinchu County  
300092, Taiwan  
**including the sites according to annex**

Validation & Verification Site: **including the sites according to annex**

Validation & Verification Body: **TÜV Rheinland Taiwan Ltd.**

Validation & Verification Standard: **ISO 14064-3:2019**

Programme: - Voluntary Carbon Footprint scheme

Level of Assurance: - Reasonable

Consolidation methodology: - Operational Control

Materiality: - 5%

LCA software or database: - SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8, 2006 IPCC Guidelines for National Greenhouse Gas Inventories

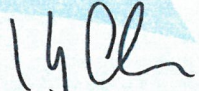
Analysis method: - IPCC 2021 GWP100 V1.01

Validation & Verification Scope: Based on the information we have received and evaluated that:

- Global warming potential (GWP): IPCC 2021, AR6
- Product category rules (PCR): N/A
- Product: Resistor
  - Boundary: Cradle to Gate
  - Data period: 2023.01.01~2023.12.31
  - Functional / Declared unit: one gram. (Including package)
  - Model no. / Carbon emissions: Passive Resistor (Annual Average) / 333.565 g CO<sub>2</sub>e
- Data and information
  - Historical in nature: Raw materials / Production
  - Historical in nature with scenario models: N/A
- Purchased: Renewable energy 19350.909 Mwh

Validity: This certificate is valid from 2024/09/30 until 2026/09/29  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2024-09-30

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd., Taipei  
105, Taiwan

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# Annex to certificate

Inventory Standard **ISO 14067:2018**

Certificate Registr. No. **CO 50644004 0001**

Report No. **48248652 001**

Validation & Verification Site:

- No. 688, Xiuhu West Road, Yundong Economic Development Zone, Songling Town, Wujiang City, Jiangsu Province, China

Verification Method:

- Site visit, Interview, confirm operational behavior and procedures, Evaluation of ownership, Data and information aggregation process, trail, sampling, Control and estimate testing, Analytical procedures between production and emissions, Re-calculation and document review

Verification opinions:

Reasonable Assurance

- Modified opinion
  - there is sufficient and appropriate evidence to support material emissions, removals or storage;
  - the criteria are applied appropriately for material emissions, removals or storage;
  - the effectiveness of controls has been evaluated when the verifier intends to rely on those controls.
  - Modified procedures, calculation methods, data, factors or documents, there are have insignificant impact on materiality, intended users' understanding of GHG claims, modified (Please refer to the finding report for the detail revised items):
    - Procedures, Calculation methods, Data, Factors, Documents



# 證書

盤查標準

**ISO 14067:2018**

證書登記號碼

**CO 50650880 0001**

報告號碼

**48249871 001**

證書持有者:

**乾坤科技股份有限公司**

確證與查證場址:

台灣 300092 新竹縣新竹科學園區研發二路 2 號

確證與查證機構:

所包括場址已列於證書附件上

確證與查證標準:

**台灣德國萊因技術監護顧問股份有限公司**

方案:

ISO 14064-3:2019

查證保證等級:

- 自願性碳足跡方案

彙總方法:

- 合理保證

實質性:

- 營運控制權法

生命週期軟體/資料庫:

- 5%

- SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8, Carbon Footprint information platform (Owner: Taiwan MOENV), 2006 IPCC Guidelines for National Greenhouse Gas Inventories

分析方法:

- IPCC 2021 GWP100 V1.01

確證與查證範圍:

基於取得的資訊進行評估之結論:

- 全球暖化潛勢(GWP): IPCC 2021, AR6

- 產品類別規則: N/A

- 產品: Mini-ohm Resistor 超低電阻

- 邊界: 搖籃到大門

- 數據期間: 2023.01.01~2023.12.31

- 功能單位 / 宣告單位: 1 公克(含包裝)

- 型號 / 碳排放量:

- M-ohm series (年平均) / 361.726 公克二氧化碳當量(g CO<sub>2</sub>e)

- 數據與資訊:

- 歷史性資料: 原物料 / 生產

- 歷史性資料及情境模型: N/A

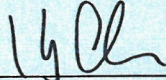
- 採購: 再生能源 5397.371 Mwh

有效性:

本證書有效期自 2024/12/02 到 2026/12/01 止

本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2024-12-02

  
台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

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# 證書附件

盤查標準	ISO 14067:2018
證書登記號碼	CO 50650880 0001
報告號碼	48249871 001

- 確證與查證場址：
- 台灣 300092 新竹縣新竹科學園區研發二路 2 號
- 查證方法：
- 場址訪視、人員訪談、確認操作行為與程序、所有權評估、資料與資訊積累過程、追蹤與取樣、管制與估計測試、生產與排放間的分析程序、數據驗算與文件審查
- 查證意見：
- 合理保證
- 經修改的意見
    - 具充分且適當的證據支持實質性的排放量、移除量或儲存
    - 對實質的排放量或儲存採取適當的準則
    - 查證者欲依靠管制時，其管制有效性已被評估
    - 經修改的程序，計算方法，數據，係數或文件，對實質性，預期使用者對溫室氣體宣告的理解影響不重要 (修改的詳細項目請見查驗發現報告) 修改了：
      - 數據、係數、計算方法



# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50650880 0001**  
Report No. **48249871 001**

Certificate Holder: **CYNTEC CO., LTD.**  
No. 2, R&D 2nd Rd., Hsinchu Science Park, Hsinchu County 300092, Taiwan  
including the sites according to annex

Validation & Verification Site:

Validation & Verification Body: **TÜV Rheinland Taiwan Ltd.**

Validation & Verification Standard: ISO 14064-3:2019

Programme: - Voluntary Carbon Footprint scheme

Level of Assurance: - Reasonable

Consolidation methodology: - Operational Control

Materiality: - 5%

LCA software or database: - SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8, Carbon Footprint information platform  
(Owner: Taiwan MOENV), 2006 IPCC Guidelines for National Greenhouse Gas Inventories

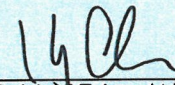
Analysis method: - IPCC 2021 GWP100 V1.01

Validation & Verification Scope: Based on the information we have received and evaluated that:

- Global warming potential (GWP): IPCC 2021, AR6
- Product category rules (PCR): N/A
- Product: Mini-ohm Resistor
  - Boundary: Cradle to Gate
  - Data period: 2023.01.01~2023.12.31
  - Functional / Declared unit: one gram. (Including package)
  - Model no. / Carbon emissions: - M-ohm series (Annual Average) / 361.726 g CO<sub>2</sub>e
- Data and information
  - Historical in nature: Raw materials / Production
  - Historical in nature with scenario models: N/A
- Purchased: Renewable energy 5397.371 Mwh

Validity: This certificate is valid from 2024/12/02 until 2026/12/01  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2024-12-02

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd., Taipei  
105, Taiwan

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# Annex to certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50650880 0001**  
Report No. **48249871 001**

- Validation & Verification Site:
- No. 2, R&D 2nd Rd., Hsinchu Science Park ,Hsinchu County 300092, Taiwan
- Verification Method:
- Site visit, Interview, confirm operational behavior and procedures, Evaluation of ownership, Data and information aggregation process, trail, sampling, Control and estimate testing, Analytical procedures between production and emissions, Re-calculation and document review
- Verification opinions:
- Reasonable Assurance
- Modified opinion
    - there is sufficient and appropriate evidence to support material emissions, removals or storage;
    - the criteria are applied appropriately for material emissions, removals or storage;
    - the effectiveness of controls has been evaluated when the verifier intends to rely on those controls.
    - Modified procedures, calculation methods, data, factors or documents, there are have insignificant impact on materiality, intended users' understanding of GHG claims, modified (Please refer to the finding report for the detail revised items):
      - Data, Factors, Calculation methods



# Certificate

Inventory Standard **ISO 14067:2018**

Certificate Registr. No. **CO 50644003 0001**

Report No. **48248651 001**

Certificate Holder: **CYNTEC CO., LTD.**  
No. 2, Yanfa 2nd Rd., Baoshan Township, Hsinchu Science Park, Hsinchu County  
300092, Taiwan

Validation & Verification Site: **including the sites according to annex**

Validation & Verification Body: **TÜV Rheinland Taiwan Ltd.**

Validation & Verification Standard: **ISO 14064-3:2019**

Programme: - Voluntary Carbon Footprint scheme

Level of Assurance: - Reasonable

Consolidation methodology: - Operational Control

Materiality: - 5%

LCA software or database: - SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8, 2006 IPCC Guidelines for National Greenhouse Gas Inventories

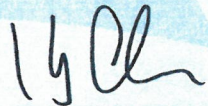
Analysis method: - IPCC 2021 GWP100 V1.01

Validation & Verification Scope: Based on the information we have received and evaluated that:

- Global warming potential (GWP): IPCC 2021, AR6
- Product category rules (PCR): N/A
- Product: Molding Choke
  - Boundary: Cradle to Gate
  - Data period: 2023.01.01~2023.12.31
  - Functional / Declared unit: one gram. (Including package)
  - Model no. / Carbon emissions: MD series choke (Annual Average) / 8.072 g CO<sub>2</sub>e
- Data and information
  - Historical in nature: Raw materials / Production
  - Historical in nature with scenario models: N/A
- Purchased: Renewable energy 72142.344 Mwh

Validity: This certificate is valid from 2024/10/01 until 2026/09/30  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2024-10-01

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd., Taipei  
105, Taiwan

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# Annex to certificate

Inventory Standard **ISO 14067:2018**

Certificate Registr. No. **CO 50644003 0001**

Report No. **48248651 001**

Validation & Verification Site:

- No. 168 Jishi East Road, Wujiang Economic and Technological Development Zone, Suzhou City, Jiangsu Province, China.

Verification Method:

- Site visit, Interview, confirm operational behavior and procedures, Evaluation of ownership, Data and information aggregation process, trail, sampling, Control and estimate testing, Analytical procedures between production and emissions, Re-calculation and document review

Verification opinions:

Reasonable Assurance

- Modified opinion
  - there is sufficient and appropriate evidence to support material emissions, removals or storage;
  - the criteria are applied appropriately for material emissions, removals or storage;
  - the effectiveness of controls has been evaluated when the verifier intends to rely on those controls.
  - Modified procedures, calculation methods, data, factors or documents, there are have insignificant impact on materiality, intended users' understanding of GHG claims, modified (Please refer to the finding report for the detail revised items):
    - Data, Factors, Documents



# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50576882 0001**  
Report No. **48200279 009**

Certificate Holder: **CYNTEC CO., LTD.**  
No. 2, Yanfa 2nd Rd., Baoshan Township, Hsinchu Science Park,  
HsinChu County 300092, Taiwan (R.O.C.)

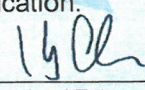
Verification Site: **Cyntec Electronics (Suzhou) Co., Ltd.**  
No. 168, Jishi East Road, Wujiang Economic Development Zone,  
SuZhou City, JiangSu Province 215200, China

Verification Method: Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro 9.3.0.3 / Ecoinvent 3.8  
- Product: Power choke  
- Boundary: Cradle to Gate  
- Data period: 2021.01.01~2021.12.31  
- Functional unit: one g (including package)  
- Model no. / Carbon emissions:  
T-core series / 20.531 g CO<sub>2</sub>e

Validity: This certificate is valid from 2023/04/11 until 2025/04/10  
This certificate only verified the target product carbon footprint, this  
verification does not include review of external communication.

2023-04-11

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50576870 0001**  
Report No. **48200279 007**

Certificate Holder: **Delta Electronics, Inc.**  
186, Ruey Kuang Road, Neihu District, Taipei 114501, Taiwan

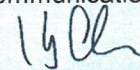
Verification Site: **Delta Electronics (Jiangsu) Ltd.(Wujiang Plant 4)**  
No. 1688, Jiangxing East Road, Wujiang Economic and Technological Development Zone Suzhou City, Jiangsu Province, China

Verification Method: Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro 9.3.0.3 / Ecoinvent 3.8  
- Product: Projector  
- Boundary: Cradle to Gate  
- Data period: 2021.01.01~2021.12.31  
- Functional unit: one piece (including package)  
- Model no. / Carbon emissions:  
LX176-435BQET / 114.203 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2023/04/11 until 2025/04/10  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2023-04-11



TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50576842 0001**  
Report No. **48200279 002**

Certificate Holder: **Delta Electronics, Inc.**  
186, Ruey Kuang Road, Neihu District, Taipei 114501, Taiwan

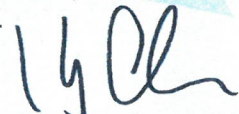
Verification Site: **Delta Electronics (Wuhu) Ltd.(Wuhu Plant 2)**  
Economic-technical Development Area, Wuhu City, Anhui Province, China

Verification Method : Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- Product: Led High Bay  
- Boundary: Cradle to Gate  
- Data period: 2021.07.01~2021.09.30, 2021.11.01~2021.12.31  
- Functional unit: one Pcs (with package, 9.2 kg)  
- Model no. / Carbon emissions:  
HBEBK 200W / 94.291 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2023/03/13 until 2025/03/12  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2023-03-13

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50576880 0001**  
Report No. **48200279 008**

Certificate Holder: **Delta Electronics, Inc.**  
186, Ruey Kuang Road, Neihu District, Taipei 114501, Taiwan

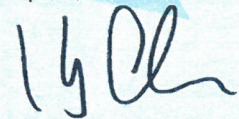
Verification Site: **Delta Electronics (Jiangsu) Ltd.(Wujiang Plant 6)**  
No. 1688, Jiangxing East Road, Wujiang Economic and Technological  
Development Zone Suzhou City, Jiangsu Province, China

Verification Method : Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- Product: Charger IC-CPD  
- Boundary: Cradle to Gate  
- Data period: 2021.01.01 ~2021.12.31  
- Functional unit: one Pcs (with package, 2.77 kg)  
- Model no. / Carbon emissions:  
EVVS10CE27AV-A / 99.599 kg CO<sub>2e</sub>

Validity: This certificate is valid from 2023/03/13 until 2025/03/12  
This certificate only verified the target product carbon footprint, this verification  
does not include review of external communication.

2023-03-13



TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50576840 0001**  
Report No. **48200279 001**

Certificate Holder: **Delta Electronics, Inc.**  
186, Ruey Kuang Road, Neihu District, Taipei 114501, Taiwan

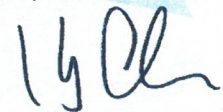
Verification Site: **Delta Electronics, Inc. (Taoyuan Plant 1)**  
31-1, Xingbang Road, Guishan District, Taoyuan City 333613, Taiwan

Verification Method : Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- Product: Vehicle Motor  
- Boundary: Cradle to Gate  
- Data period: 2021.01.01 ~ 2021.12.31  
- Functional unit: one Pcs (with package, 6.875 Kg)  
- Model no. / Carbon emissions: ECMV-A81303PS / 58.02 kg CO<sub>2e</sub>

Validity: This certificate is valid from 2023/03/08 until 2025/03/07  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2023-03-08



TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50576868 0001**  
Report No. **48200279 006**

Certificate Holder: **Delta Electronics, Inc.**  
186, Ruey Kuang Road, Neihu District, Taipei 114501, Taiwan

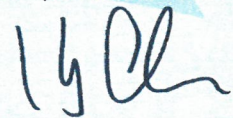
Verification Site: **Delta Electronics (Jiangsu) Ltd.(Wujiang Plant 2)**  
No. 1688, Jiangxing East Road, Wujiang Economic and Technological  
Development Zone Suzhou City, Jiangsu Province, China

Verification Method : Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- Product: Adaptor  
- Boundary: Cradle to Gate  
- Data period: 2021.08.04 ~2022.07.23  
- Functional unit: one Pcs (with package, 0.505 kg)  
- Model no. / Carbon emissions:  
ADP-400ER AB / 23.801 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2023/03/13 until 2025/03/12  
This certificate only verified the target product carbon footprint, this verification  
does not include review of external communication.

2023-03-13



TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50576843 0001**  
Report No. **48200279 003**

Certificate Holder: **Delta Electronics, Inc.**  
186, Ruey Kuang Road, Neihu District, Taipei 114501, Taiwan

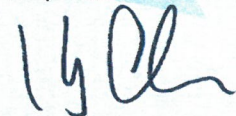
Verification Site: **Delta Electronics, Inc. (Taoyuan Plant 2)**  
No.252, Shang Ying Rd., Kuei San District, Taoyuan City 33341, Taiwan

Verification Method : Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: EPD-PCR Femto Cell PRODUCT-CATEGORY RULES, PCR 2011:1.0, 2011.12.31  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- Product: Wireless AP  
- Boundary: Cradle to Grave  
- Data period: 2022.01.01 ~ 2022.06.30  
- Functional unit: one Pcs (with package, 2.176 Kg)  
- Model no. / Carbon emissions: AP 43-US / 298.12 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2023/03/08 until 2025/03/07  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2023-03-08



TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50576866 0001**  
Report No. **48200279 005**

Certificate Holder: **Delta Electronic (Thailand) Public Company Limited**  
909 Soi 9 Moo 4, Bangpoo Industrial Estate (EPZ.), Pattana1 Rd., T. Phrakasa, A. Muang, Samutprkarn 10280, THAILAND

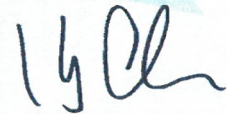
Verification Site: **Delta Electronic (Thailand) Public Company Limited**  
909 Soi 9 Moo 4, Bangpoo Industrial Estate (EPZ.), Pattana1 Rd., T. Phrakasa, A. Muang, Samutprkarn 10280, THAILAND

Verification Method : Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- Product: DIN Rail Power Supply  
- Boundary: Cradle to Gate  
- Data period: 2021.01.01 ~ 2021.12.31  
- Functional unit: one Pcs (with package, 1.9 Kg)  
- Model no. / Carbon emissions: EOE14010564 / 23.19 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2023/03/08 until 2025/03/07  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2023-03-08



TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Inventory Standard **ISO 14067:2018**

Certificate Registr. No. **CO 50576883 0001**

Report No. **48200279 010**

Certificate Holder: **Delta Electronics, Inc.**  
186, Ruey Kuang Road, Neihu District, Taipei 114501, Taiwan

Verification Site: **Delta Electronics (Jiangsu) Ltd.(Wujiang Plant 7)**  
No. 1688, Jiangxing East Road, Wujiang Economic and Technological Development Zone Suzhou City, Jiangsu Province, China

Verification Method: Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro 9.3.0.3 / Ecoinvent 3.8  
- Product: Stator  
- Boundary: Cradle to Gate  
- Data period: 2021.01.01~2021.12.31  
- Functional unit: one piece (including package)  
- Model no. / Carbon emissions:  
SM-2148105K1 / 72.735 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2023/04/11 until 2025/04/10  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2023-04-11

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Inventory Standard **ISO 14067:2018**

Certificate Registr. No. **CO 50576851 0001**

Report No. **48200279 004**

Certificate Holder: **Delta Electronics, Inc.**  
186, Ruey Kuang Road, Neihu District, Taipei 114501, Taiwan

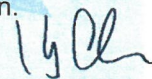
Verification Site: **Delta Electronics (Jiangsu) Ltd.(Wujiang Plant 5)**  
No. 1688, Jiangxing East Road, Wujiang Economic and Technological Development Zone Suzhou City, Jiangsu Province, China

Verification Method: Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, site visit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary Carbon Footprint scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2021  
- Analysis method: IPCC 2021 GWP 100a V1.00  
- LCA software or database: SimaPro 9.3.0.3 / Ecoinvent 3.8  
- Product: DC fan  
- Boundary: Cradle to Gate  
- Data period: 2021.06.01~2021.12.31  
- Functional unit: one piece (including package)  
- Model no. / Carbon emissions:  
ASB1212SJ-00GZC / 1.612 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2023/04/11 until 2025/04/10  
This certificate only verified the target product carbon footprint, this verification does not include review of external communication.

2023-04-11

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# 證書

盤查標準

ISO 14067:2018

證書登記號碼

CO 50576842 0001

報告號碼

48200279 002

證書持有者:

台達電子工業股份有限公司  
台灣 台北市內湖區瑞光路 186 號

查證場址:

中達電子(蕪湖)有限公司(蕪湖二廠)  
中國(安徽)自由貿易試驗區蕪湖片區九華北路 138 號

查證方法:

查證機構: 台灣德國萊因技術監護顧問股份有限公司  
- 過程: 文件審查, 訪談, 現場訪視與重新計算  
- 查證標準: ISO 14064-3:2006

查證範圍:

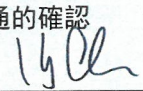
基於取得的資訊進行評估之結論:

- 方案: 自願性碳足跡方案
- 產品類別規則: N/A
- 組織邊界: 營運控制權法
- 保證等級: 合理保證
- 實質性: 5%
- 全球暖化潛勢(GWP): IPCC 2021
- 分析方法: IPCC 2021 GWP 100a V1.00
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8
- 產品: 高天井燈
  - 邊界: 搖籃到大門
  - 數據期間: 2021.07.01~2021.09.30, 2021.11.01~2021.12.31
  - 功能單位: 1 件(含包裝, 9.2 kg)
  - 型號 / 碳排放量:  
HBEBK 200W / 94.291 公斤二氧化碳當量(kg CO<sub>2e</sub>)

有效性:

本證書有效期自 2023/03/13 到 2025/03/12 止  
本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-03-13

  
台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# 證書

盤查標準

ISO 14067:2018

證書登記號碼

CO 50576880 0001

報告號碼

48200279 008

證書持有者:

台達電子工業股份有限公司  
台灣 台北市內湖區瑞光路 186 號

查證場址:

中達電子(江蘇)有限公司(吳江六廠)  
江蘇省蘇州市吳江經濟技術開發區江興東路 1688 號

查證方法:

查證機構: 台灣德國萊因技術監護顧問股份有限公司  
- 過程: 文件審查, 訪談, 現場訪視與重新計算  
- 查證標準: ISO 14064-3:2006

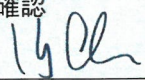
查證範圍:

基於取得的資訊進行評估之結論:  
- 方案: 自願性碳足跡方案  
- 產品類別規則: N/A  
- 組織邊界: 營運控制權法  
- 保證等級: 合理保證  
- 實質性: 5%  
- 全球暖化潛勢(GWP): IPCC 2021  
- 分析方法: IPCC 2021 GWP 100a V1.00  
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- 產品: 電動汽車充電控制器  
- 邊界: 搖籃到大門  
- 數據期間: 2021.01.01 ~2021.12.31  
- 功能單位: 1 件(含包裝, 2.77 kg)  
- 型號 / 碳排放量:  
EVVS10CE27AV-A / 99.599 公斤二氧化碳當量(kg CO<sub>2e</sub>)

有效性:

本證書有效期自 2023/03/13 到 2025/03/12 止  
本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-03-13

  
台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# 證書

盤查標準

ISO 14067:2018

證書登記號碼

CO 50576840 0001

報告號碼

48200279 001

證書持有者:

台達電子工業股份有限公司  
台灣 台北市內湖區瑞光路 186 號

查證場址:

台達電子工業股份有限公司(桃園一廠)  
台灣 333613 桃園市龜山區興邦路 31-1 號

查證方法:

查證機構: 台灣德國萊因技術監護顧問股份有限公司  
- 過程: 文件審查, 訪談, 現場訪視與重新計算  
- 查證標準: ISO 14064-3:2006

查證範圍:

基於取得的資訊進行評估之結論:

- 方案: 自願性碳足跡方案
- 產品類別規則: N/A
- 組織邊界: 營運控制權法
- 保證等級: 合理保證
- 實質性: 5%
- 全球暖化潛勢(GWP): IPCC 2021
- 分析方法: IPCC 2021 GWP 100a V1.00
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8
- 產品: 整合式低壓直流無刷馬達
  - 邊界: 搖籃到大門
  - 數據期間: 2021.01.01 ~ 2021.12.31
  - 功能單位: 1 件(含包裝, 6.875 Kg)
  - 型號 / 碳排放量: ECMV-A81303PS / 58.02 公斤二氧化碳當量(Kg CO<sub>2</sub>e)

有效性:

本證書有效期自 2023/03/08 到 2025/03/07 止  
本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-03-08

台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# 證書

盤查標準 **ISO 14067:2018**  
證書登記號碼 **CO 50576868 0001**  
報告號碼 **48200279 006**

證書持有者: **台達電子工業股份有限公司**  
台灣 台北市內湖區瑞光路 186 號

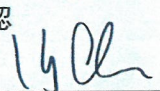
查證場址: **中達電子(江蘇)有限公司(吳江二廠)**  
江蘇省蘇州市吳江經濟技術開發區江興東路 1688 號

查證方法: 查證機構: 台灣德國萊因技術監護顧問股份有限公司  
- 過程: 文件審查, 訪談, 現場訪視與重新計算  
- 查證標準: ISO 14064-3:2006

查證範圍: 基於取得的資訊進行評估之結論:  
- 方案: 自願性碳足跡方案  
- 產品類別規則: N/A  
- 組織邊界: 營運控制權法  
- 保證等級: 合理保證  
- 實質性: 5%  
- 全球暖化潛勢(GWP): IPCC 2021  
- 分析方法: IPCC 2021 GWP 100a V1.00  
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- 產品: 開關電源  
- 邊界: 搖籃到大門  
- 數據期間: 2021.08.04 ~2022.07.23  
- 功能單位: 1 件(含包裝, 0.505 kg)  
- 型號 / 碳排放量:  
ADP-400ER AB / 23.801 公斤二氧化碳當量(kg CO<sub>2</sub>e)

有效性: 本證書有效期自 2023/03/13 到 2025/03/12 止  
本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-03-13

  
台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# 證書

盤查標準

**ISO 14067:2018**

證書登記號碼

**CO 50576843 0001**

報告號碼

**48200279 003**

證書持有者:

台達電子工業股份有限公司  
台灣 台北市內湖區瑞光路 186 號

查證場址:

台達電子工業股份有限公司(桃園二廠)  
台灣 33341 台灣桃園市龜山區山鶯路 252 號

查證方法:

查證機構: 台灣德國萊因技術監護顧問股份有限公司  
- 過程: 文件審查, 訪談, 現場訪視與重新計算  
- 查證標準: ISO 14064-3:2006

查證範圍:

基於取得的資訊進行評估之結論:

- 方案: 自願性碳足跡方案
- 產品類別規則: EPD-PCR 微型基地台 (Femto Cell) 產品類別規則, PCR 2011:1.0, 2011.12.31
- 組織邊界: 營運控制權法
- 保證等級: 合理保證
- 實質性: 5%
- 全球暖化潛勢(GWP): IPCC 2021
- 分析方法: IPCC 2021 GWP 100a V1.00
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8
- 產品: 無線基地台
  - 邊界: 搖籃到生命終期
  - 數據期間: 2022.01.01 ~ 2022.06.30
  - 功能單位: 1 件(含包裝, 2.176Kg)
  - 型號 / 碳排放量: AP 43-US / 298.12 公斤二氧化碳當量(Kg CO<sub>2</sub>e)

有效性:

本證書有效期自 2023/03/08 到 2025/03/07 止  
本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-03-08

台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# 證書

盤查標準 **ISO 14067:2018**  
證書登記號碼 **CO 50576882 0001**  
報告號碼 **48200279 009**

證書持有者: **乾坤科技股份有限公司**  
台灣  
300 新竹縣  
新竹科學園區寶山鄉研發二路二號

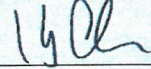
查證場址: **吳江華豐電子科技有限公司**  
中國江蘇省蘇州市吳江經濟技術開發區吉市東路 168 號

查證方法: 查證機構: 台灣德國萊因技術監護顧問股份有限公司  
- 過程: 文件審查, 訪談, 現場訪視與重新計算  
- 查證標準: ISO 14064-3:2006

查證範圍: 基於取得的資訊進行評估之結論:  
- 方案: 自願性碳足跡方案  
- 產品類別規則: N/A  
- 組織邊界: 營運控制權法  
- 保證等級: 合理保證  
- 實質性: 5%  
- 全球暖化潛勢(GWP): IPCC 2021  
- 分析方法: IPCC 2021 GWP 100a V1.00  
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- 產品: 電感  
- 邊界: 搖籃到大門  
- 數據期間: 2021.01.01~2021.12.31  
- 功能單位: 1 公克(含包裝)  
- 型號 / 碳排放量:  
T-core series / 20.531 公克二氧化碳當量(g CO<sub>2e</sub>)

有效性: 本證書有效期自 2023/04/11 到 2025/04/10 止  
本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-04-11

  
台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# 證書

盤查標準 **ISO 14067:2018**  
證書登記號碼 **CO 50576870 0001**  
報告號碼 **48200279 007**

證書持有者: **台達電子工業股份有限公司**  
台灣  
台北市  
內湖區瑞光路 186 號

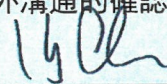
查證場址: **中達電子(江蘇)有限公司(吳江四廠)**  
江蘇省蘇州市吳江經濟技術開發區江興東路 1688 號

查證方法: 查證機構: 台灣德國萊因技術監護顧問股份有限公司  
- 過程: 文件審查, 訪談, 現場訪視與重新計算  
- 查證標準: ISO 14064-3:2006

查證範圍: 基於取得的資訊進行評估之結論:  
- 方案: 自願性碳足跡方案  
- 產品類別規則: N/A  
- 組織邊界: 營運控制權法  
- 保證等級: 合理保證  
- 實質性: 5%  
- 全球暖化潛勢(GWP): IPCC 2021  
- 分析方法: IPCC 2021 GWP 100a V1.00  
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- 產品: 數位投影機  
- 邊界: 搖籃到大門  
- 數據期間: 2021.01.01~2021.12.31  
- 功能單位: 1 台(含包裝)  
- 型號 / 碳排放量:  
LX176-435BQET / 114.203 公斤二氧化碳當量(kg CO<sub>2</sub>e)

有效性: 本證書有效期自 2023/04/11 到 2025/04/10 止  
本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-04-11



台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# 證書

盤查標準 **ISO 14067:2018**  
證書登記號碼 **CO 50576883 0001**  
報告號碼 **48200279 010**

證書持有者: **台達電子工業股份有限公司**  
台灣  
台北市  
內湖區瑞光路 186 號

查證場址: **中達電子(江蘇)有限公司(吳江七廠)**  
江蘇省蘇州市吳江經濟技術開發區江興東路 1688 號

查證方法: 查證機構: 台灣德國萊因技術監護顧問股份有限公司  
- 過程: 文件審查, 訪談, 現場訪視與重新計算  
- 查證標準: ISO 14064-3:2006

查證範圍: 基於取得的資訊進行評估之結論:  
- 方案: 自願性碳足跡方案  
- 產品類別規則: N/A  
- 組織邊界: 營運控制權法  
- 保證等級: 合理保證  
- 實質性: 5%  
- 全球暖化潛勢(GWP): IPCC 2021  
- 分析方法: IPCC 2021 GWP 100a V1.00  
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8  
- 產品: 定子組件  
- 邊界: 搖籃到大門  
- 數據期間: 2021.01.01~2021.12.31  
- 功能單位: 1 件(含包裝)  
- 型號 / 碳排放量:  
SM-2148105K1 / 72.735 公斤二氧化碳當量(kg CO<sub>2</sub>e)

有效性: 本證書有效期自 2023/04/11 到 2025/04/10 止  
本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-04-11

台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.



# 證書

盤查標準

**ISO 14067:2018**

證書登記號碼

**CO 50576851 0001**

報告號碼

**48200279 004**

證書持有者:

**台達電子工業股份有限公司**

台灣

台北市

內湖區瑞光路 186 號

查證場址:

**中達電子(江蘇)有限公司(吳江五廠)**

江蘇省蘇州市吳江經濟技術開發區江興東路 1688 號

查證方法:

查證機構: 台灣德國萊因技術監護顧問股份有限公司

- 過程: 文件審查, 訪談, 現場訪視與重新計算
- 查證標準: ISO 14064-3:2006

查證範圍:

基於取得的資訊進行評估之結論:

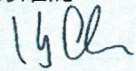
- 方案: 自願性碳足跡方案
- 產品類別規則: N/A
- 組織邊界: 營運控制權法
- 保證等級: 合理保證
- 實質性: 5%
- 全球暖化潛勢(GWP): IPCC 2021
- 分析方法: IPCC 2021 GWP 100a V1.00
- 生命週期軟體或資料庫: SimaPro Ver. 9.3.0.3 / Ecoinvent 3.8
- 產品: 直流無刷馬達散熱風扇
  - 邊界: 搖籃到大門
  - 數據期間: 2021.06.01~2021.12.31
  - 功能單位: 1 件(含包裝)
  - 型號 / 碳排放量:  
ASB1212SJ-00GZC / 1.612 公斤二氧化碳當量(kg CO<sub>2</sub>e)

有效性:

本證書有效期自 2023/04/11 到 2025/04/10 止

本證書僅對標的產品碳足跡進行查驗, 未包含對外溝通的確認

2023-04-11



台灣德國萊因技術監護顧問股份有限公司  
台灣 105 台北市八德路四段 758 號 11 樓

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying on or acting upon this verification and validation.



# Certificate

Inventory Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50565145 0001**  
Report No. **38545125 001**

Certificate Holder: **Delta Electronics (Thailand) Public Co., Ltd.**  
909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd.,  
Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

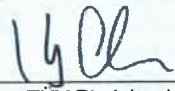
Verification Site: **Delta Electronics (Thailand) Public Co., Ltd. Plant 5**  
909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd.,  
Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

Verification Method : Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, remote audit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary PCF scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2013  
- Analysis method: IPCC 2013 GWP 100a v1.03  
- LCA software or database: SimaPro Ver. 9.2.0.2 / Ecoinvent 3  
- Product: 1800W Switching AC Power Supply  
- Boundary: Cradle to Gate  
- Data period: 2021.01.01~2021.12.31  
- Functional unit: one piece (including package)  
- Model no. / Carbon emissions:  
ECD15010020 / 99.088 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2022/11/15 until 2024/11/14  
This certificate only verified the target product carbon footprint, this  
verification does not include review of external communication.

2022-11-15

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

This verification and validation is based on the information made available to TÜV Rheinland and the engagement conditions detailed above. Therefore, TÜV Rheinland cannot guarantee the accuracy or correctness of this information. TÜV Rheinland cannot be held liable by any party relying or acting upon this verification and validation.

# Certificate

Inventory Standard **ISO 14067:2018**

Certificate Registr. No. **CO 50565144 0001**

Report No. **38545125 001**

Certificate Holder: **Delta Electronics (Thailand) Public Co., Ltd.**  
909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd.,  
Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

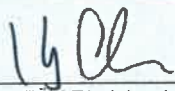
Verification Site: **Delta Electronics (Thailand) Public Co., Ltd. Plant 5**  
909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd.,  
Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

Verification Method : Verification Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, remote audit and recalculation  
- Verification Standard: ISO 14064-3:2006

Verification Scope: Based on the information we have received and evaluated that:  
- Programme: Voluntary PCF scheme  
- Product Category Rule: N/A  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2013  
- Analysis method: IPCC 2013 GWP 100a v1.03  
- LCA software or database: SimaPro Ver. 9.2.0.2 / Ecoinvent 3  
- Product: 1200W Switching AC Power Supply  
- Boundary: Cradle to Gate  
- Data period: 2021.01.01~2021.12.31  
- Functional unit: one piece (including package)  
- Model no. / Carbon emissions:  
ECD55020011 / 55.165 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2022/11/15 until 2024/11/14  
This certificate only verified the target product carbon footprint, this  
verification does not include review of external communication.

2022-11-15

  
TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Certificate

Standard **ISO 14067:2018**  
Certificate Registr. No. **CO 50509260 0001**  
Report No. **38514202 001**

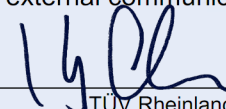
Certificate Holder: **Delta Electronics (Thailand) Public Co., Ltd.**  
909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd.,  
Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

Site: **Delta Electronics (Thailand) Public Co., Ltd. Plant 5**  
909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd.,  
Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

Scope: Verification and Validation Body: TÜV Rheinland Taiwan Ltd.  
- Process: Document review, interview, remote audit and recalculation  
Based on the information we have received and evaluated that:  
- Programme: Voluntary PCF scheme  
- Product Category Rule: N/A  
- Review Criteria: ISO 14064-3:2006  
- Organizational Boundary: Operational Control  
- Level of Assurance: Reasonable  
- Materiality: 5%  
- Global warming potential (GWP): IPCC 2013  
- Analysis method: IPCC 2013 GWP 100a v1.03  
- LCA software or database: SimaPro 9.0.0 / Ecoinvent 3  
- Product and Model no.: Switching Power Supply for Data Storage System / ECD55020002  
- Boundary: Cradle to Gate  
- Data period: 2020.01.01~2020.12.31  
- Functional unit: one piece (include package)  
- Carbon emissions: 33.370 kg CO<sub>2</sub>e

Validity: This certificate is valid from 2021/07/15 until 2023/07/14  
This certificate only verified the target product / service carbon footprint,  
this verification does not include review of external communication.

2021-07-15



TÜV Rheinland Taiwan Ltd.  
11F., No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan

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# Product Carbon Footprint Verification Statement

Statement Registr. No.: **CO 50403077 0001**

Verification Report No.: **14072896 001**

License Holder :



**Delta Electronics (Thailand) Public Co., Ltd.**

909 Soi 9, Moo 4, Bangpoo Industrial Estate

(E.P.Z.), Pattana 1 Rd., Tambon Phraksa,

Amphur Muang, Samutprakarn 10280, Thailand

Scope

: The inventory include:

- Delta Electronics (Thailand) Public Co., Ltd. Plant 5:
  - 909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd., Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

has been verified in meeting the following requirements:

- Standards: ISO/TS 14067:2013, ISO 14040:2006, ISO 14044:2006
- Product Category Rule: N/A

Following activities were conducted during verification:

- Document review, interview, site visit and recalculation

Based on the information we have received and evaluated, it was verified by TÜV Rheinland Taiwan that:

- Data and information, which support this verification, are from hypothetical, projected and historical in nature.
- System boundary of this product: Cradle to Gate
- LCA software or database: SimaPro Ver. 8.4.0 / Ecoinvent 3.3
- Analysis method: IPCC 2013 GWP 100a v1.02
- Product carbon footprint inventory report period: Jan. 1, 2016 to Dec. 31, 2016.
- Product and functional unit: Switching Power Supply for Data Storage System / one piece (including pack).
- Model no. and carbon emissions: ECD55020002 / 42.410 kg CO<sub>2</sub>e

Validity

: This statement is valid from 2018/03/30 until 2020/03/29

Date of Issue 2018/03/30

TÜV Rheinland Taiwan Ltd.  
11F, No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan, R.O.C.

  
**Jason J. S. Wu**

TÜV Rheinland Systems Greater China  
2018/03/30

This Verification Statement is based on the information made available to TÜV Rheinland Taiwan and the engagement conditions detailed above. Therefore, TÜV Rheinland Taiwan cannot guarantee the accuracy or correctness of this information. TÜV Rheinland Taiwan cannot be held liable by any party relying or acting upon this Verification Statement.



# Product Carbon Footprint Verification Statement

Statement Registr. No.: **CO 50402562 0001**

Verification Report No.: **14072896 001**

License Holder :



**Delta Electronics (Thailand) Public Co., Ltd.**

909 Soi 9, Moo 4, Bangpoo Industrial Estate

(E.P.Z.), Pattana 1 Rd., Tambon Phraksa,

Amphur Muang, Samutprakarn 10280, Thailand

Scope :

The inventory include:

- Delta Electronics (Thailand) Public Co., Ltd. Plant 5:
  - 909 Soi 9, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd., Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

has been verified in meeting the following requirements:

- Standards: ISO/TS 14067:2013, ISO 14040:2006, ISO 14044:2006
- Product Category Rule: N/A

Following activities were conducted during verification:

- Document review, interview, site visit and recalculation

Based on the information we have received and evaluated, it was verified by TÜV Rheinland Taiwan that:

- Data and information, which support this verification, are from hypothetical, projected and historical in nature.
- System boundary of this product: Cradle to Gate
- LCA software or database: SimaPro Ver. 8.4.0 / Ecoinvent 3.3
- Analysis method: IPCC 2013 GWP 100a v1.02
- Product carbon footprint inventory report period: Jan. 1, 2016 to Dec. 31, 2016.
- Product and functional unit: Switching Power Supply for Data Storage System / one piece (including pack).
- Model no. and carbon emissions: TDPS-800FB X series (this verification is model no. TDPS-800FB A, "X" can be used as "A, B, C, D, E" for marketing purpose only) / 66.010 kg CO<sub>2</sub>e

Validity :

This statement is valid from 2018/03/30 until 2020/03/29

Date of Issue 2018/03/30

TÜV Rheinland Taiwan Ltd.

11F, No. 758, Sec. 4, Bade Rd.,

Taipei 105, Taiwan, R.O.C.

  
**Jason J. S. Wu**

TÜV Rheinland Systems Greater China

2018/03/30

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# Product Carbon Footprint Verification Statement

Statement Registr. No.: **CO 50403076 0001**

Verification Report No.: **14072896 001**

License Holder :



**Delta Electronics (Thailand) Public Co., Ltd.**  
909 Soi 9, Moo 4, Bangpoo Industrial Estate  
(E.P.Z.), Pattana 1 Rd., Tambon Phraksa,  
Amphur Muang, Samutprakarn 10280, Thailand

Scope

- : The inventory include:
- Delta Electronics (Thailand) Public Co., Ltd. Plant 1:
    - 714 Soi E5, Moo 4, Bangpoo Industrial Estate (E.P.Z.), Pattana 1 Rd., Tambon Phraksa, Amphur Muang, Samutprakarn 10280, Thailand

has been verified in meeting the following requirements:

- Standards: ISO/TS 14067:2013, ISO 14040:2006, ISO 14044:2006
- Product Category Rule: N/A

Following activities were conducted during verification:

- Document review, interview, site visit and recalculation

Based on the information we have received and evaluated, it was verified by TÜV Rheinland Taiwan that:

- Data and information, which support this verification, are from hypothetical, projected and historical in nature.
- System boundary of this product: Cradle to Gate
- LCA software or database: SimaPro Ver. 8.4.0 / Ecoinvent 3.3
- Analysis method: IPCC 2013 GWP 100a v1.02
- Product carbon footprint inventory report period: Jan. 1, 2016 to Dec. 31, 2016.
- Product and functional unit: DCDC Module for EV Powertrain / one piece (including pack).
- Model no. and carbon emissions: ECD21050002 / 54.321 kg CO<sub>2</sub>e

Validity

: This statement is valid from 2018/03/30 until 2020/03/29

Date of Issue 2018/03/30  
TÜV Rheinland Taiwan Ltd.  
11F, No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan, R.O.C.

  
**Jason J. S. Wu**

TÜV Rheinland Systems Greater China  
2018/03/30

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# Product Carbon Footprint Verification Statement

Statement: CO 50358085 0001

Verification Report No.: 14053389 001



**DELTA ELECTRONICS, INC.**

No.186, Ruey Kuang Rd., Neihu, Taipei 11491,  
Taiwan(R.O.C.)

The inventory of High Efficiency Rectifier Module product life cycle carbon emissions in year 2015 of DELTA ELECTRONICS, INC.

- Address:
  - No.1688, Jiangxing East Rd., Wujiang Eco & Tech Development Zone, Wujiang City, Jiangsu., P.R.C. 215200

has been verified in meeting the following requirements:

- Standards: ISO/TS 14067:2013, ISO 14040:2006, ISO 14044:2006
- Product Category Rule: N/A

Following activities were conducted during verification:

- Document review, interview, site visit and recalculation

Based on the information we have received and evaluated, it was verified by TÜV Rheinland Taiwan that:

- The level of assurance carried out in this PCF verification was agreed by both parties is Reasonable Assurance Level.
- Required materiality of the verification is 5% and GWP value is following IPCC 2013 Report. Data and information, which support this PCF verification, are from hypothetical, projected and historical in nature.
- System boundary of this product: Cradle to Gate
- Geography boundary: P.R.C.(including 1 site: Wujiang)
- LCA software or database: SimaPro Ver. 8.2.0 / Ecoinvent 3.0, IPCC 2013 GWP 100a v1.02
- Product carbon footprint inventory report period: Jan. 1, 2015 to Dec. 31, 2015.
- Product and functional unit: High Efficiency Rectifier Module / one set (including pack)
- Model no. and carbon emissions: ESR-48/56B F c / 69.437 kg CO<sub>2</sub>e
- This statement is valid from 2016/10/20 until 2018/10/19

Date of Issue 2016/10/20  
TÜV Rheinland Taiwan Ltd.  
11F, No. 758, Sec. 4, Bade Rd.,  
Taipei 105, Taiwan, R.O.C.

**Jason J. S. Wu**

TÜV Rheinland Systems Greater China  
2016/10/20

This Verification Statement is based on the information made available to TÜV Rheinland Taiwan and the engagement conditions detailed above. Therefore, TÜV Rheinland Taiwan cannot guarantee the accuracy or correctness of this information. TÜV Rheinland Taiwan cannot be held liable by any party relying or acting upon this Verification Statement.





# Certificate of Registration

## Product Carbon Footprint Verification Opinion Statement

This is to certify that:

Delta Electronics, Inc  
3 Tungyuan Road  
Chungli Industrial Zone  
Chungli City Taoyuan County  
TAIWAN

台達電子工業股份有限公司  
台灣  
桃園縣中壢市  
中壢工業區  
東園路3號

Holds Certificate No: **PCFV 016-5**  
Verification opinion statement

As a result of carrying out the verification of product life cycle greenhouse gas emissions, it is the opinion of BSI with limited assurance that:

- The product carbon footprint with the functional unit of each ADAPTOR, Type No.: ADP-90CD BBA (攜式電源供應器，產品型號：ADP-90CD BBA) with packaging (including PE bag and carton) is 7.91 kg of CO<sub>2</sub> equivalent.
- No material misstatements in this product life cycle greenhouse gas emission assertion (2009/04/01~2010/04/01) were revealed.

The product life cycle GHG data quality was verified to be acceptable against the requirements of PAS 2050:2008.

This statement shall be valid for a maximum period of two years after the latest issue date on this certificate. Should there be a change in the life cycle of the product whose GHG emissions are being assessed, the validity of this opinion statement will cease.

For and on behalf of BSI:

Managing Director BSI Taiwan, Dr. Yi Min Gao

Originally registered: **29/09/2010**

Latest Issue: **29/09/2010**

Expired by: **28/09/2012**



Page: 1 of 2

The British Standards Institution is independent to the above named client and has no financial interest in the above named client. This Opinion Statement has been prepared for the above named client only for the purposes of verifying its statements relating to its carbon emissions more particularly described in the scope. It was not prepared for any other purpose. The British Standards Institution will not, in providing this Opinion Statement, accept or assume responsibility (legal or otherwise) or accept liability for or in connection with any other purpose for which it may be used or to any person by whom the Opinion Statement may be read. This Opinion Statement is prepared on the basis of review by The British Standards Institution of information presented to it by the above named client. The review does not extend beyond such information and is solely based on it. In performing such review, The British Standards Institution has assumed that all such information is complete and accurate. Any queries that may arise by virtue of this Opinion Statement or matters relating to it should be addressed to the above named client only.

This certificate was issued electronically and remains the property of BSI and is bound by the conditions of contract.

An electronic certificate can be authenticated [online](#).

Printed copies can be validated at [www.bsi-global.com/ClientDirectory](http://www.bsi-global.com/ClientDirectory) or telephone +886(02)2656-0333.

Taiwan Headquarters: 5th Floor, No. 39, Ji-Hu Rd., Nei-Hu Dist., Taipei 114, Taiwan, R.O.C.  
BSI Taiwan is a subsidiary of British Standards Institution.





Certificate No: PCFV 016-5

**Location**

Delta Electronics, Inc  
3 Tungyuan Road.  
Chungli Industrial Zone  
Chungli City Taoyuan County  
TAIWAN  
台達電子工業股份有限公司  
台灣  
桃園縣中壢市  
中壢工業區  
東園路3號

**Registered Activities**

The product carbon footprint with the functional unit of each ADAPTOR, Type No.: ADP-90CD BBA (攜式電源供應器, 產品型號: ADP-90CD BBA) with packaging (including PE bag and carton) is 7.91 kg of CO<sub>2</sub> equivalent.

**Additional information**

Product related information is as follows:

- System boundary for this product : Business to Business  
The product system boundary is consistent with its system boundary definition in PCF report for product carbon footprint, which involves the acquisition of raw material, process activities, transportation, and distribution in the product life cycle.
- The data in this product life cycle greenhouse gas inventory report is from 01 April 2009 to 01 April 2010.
- The primary activity data includes related facilities from its own processes under the operational control of the origination and partial suppliers such as Wentai Electronic(Suzhou) Co., Ltd (穩態電子).
- The secondary data include relative factors from public sources and LCA software SimaPro 7.1.8.

Originally registered: **29/09/2010**

Latest Issue: **29/09/2010**

Expired by: **28/09/2012**

Page: 2 of 2

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Taiwan Headquarters: 5th Floor, No. 39, Ji-Hu Rd., Nei-Hu Dist., Taipei 114, Taiwan, R.O.C.  
BSI Taiwan is a subsidiary of British Standards Institution.





**Thailand Greenhouse Gas Management Organization  
(Public Organization: TGO)**

Congratulate

Delta Electronics (Thailand) Public Co.,Ltd.

for

*Successfully meeting the requirements of the Carbon Footprint Label Scheme for*

**“Solar Inverter”**

[B to B Scope : 686 kg]

*as certified by TGO*

Certificate Number: TGO CF10-062

Registration Date: 28 December 2010

Expiration Date: 28 December 2012

**Mr. Sirithan Pairoj-boriboon**

Executive Director

Thailand Greenhouse Gas Management Organization  
(Public Organization)





**Thailand Greenhouse Gas Management Organization  
(Public Organization: TGO)**

Congratulate

Delta Electronics (Thailand) Public Co.,Ltd.

for

*Successfully meeting the requirements of the Carbon Footprint Label Scheme for*

**“DC Cooling Fan ”**

[B to B Scope : 1.76 kg]

*as certified by TGO*

*Certificate Number: TGO CF10-063*

*Registration Date: 28 December 2010*

*Expiration Date: 28 December 2012*

**Mr. Sirithan Pairoj-boriboon**  
Executive Director

Thailand Greenhouse Gas Management Organization  
(Public Organization)



