



# VERIFICATION OPINION

## The partial CFP Study Report of Common Mode Filter

(WCM 2012F2SF-801-N)

accomplished on 12-12-2023, which was developed by

**TAI-TECH Advanced Electronics Co., Ltd.**

No.1 You 4th Rd., Youth Industrial District. Yang Mei,

Taoyuan City 326, Taiwan .R.O.C.

**was verified in accordance with ISO 14064-3:2019 and  
with regard to compliance with the requirements of  
ISO 14067:2018.**

The Lifecycle Inventory and respective Product Carbon Footprint were calculated at the lifecycle stage of acquisition of raw material and production ("cradle to gate"). Emissions resulting from transportation, the use of the product and the end-of-life treatment were excluded.

<b>Declared Unit</b>	per Pack of 2000pcs Common Mode Filter (WCM 2012F2SF-801-N)
<b>Total GHG Emissions per Declared Unit</b>	15.2073 kg CO <sub>2e</sub>
<b>Covered Period</b>	2022-01-01 to 2022-12-31
<b>Level of Assurance</b>	Reasonable
<b>Level of Materiality</b>	5% for the total sum
<b>Verification Report No.</b>	61.027.23.020.01

This verification opinion is only valid for the mentioned scope of application and in combination with the objectives, explanations and criteria for evaluation specified in the attached verification report.

Opinion No. TÜV 23 09 5010130959. 01

Taiwan, 2023-12-15

TÜV SÜD Asia Ltd., Taiwan Branch  
TÜV SÜD Group



Taiwan

## Explanations to the verification opinion

### **Abstract of the verification process**

TAI-TECH Advanced Electronics Co., Ltd. (hereinafter referred to as TAI-TECH Corp) has voluntarily entrusted TÜV SÜD Asia Ltd. Taiwan Branch (hereinafter referred to as TÜV SÜD) to carry out an independent (third party) verification of greenhouse gas declaration in form of a partial CFP Study Report of Common Mode Filter (WCM 2012F2SF-801-N) developed by TAI-TECH Corp, which was revised and final released on Dec 12<sup>th</sup>, 2023.

The assessment is based on the intended area of application, the goals and criteria mutually agreed by both parties.

Lead Verifier Robert Dai and Verifier Jerry Tsai from TÜV SÜD carried out a document review at the client's premises and audits of responsible and collaborating staff at No.1 You 4th Rd., Youth Industrial District. Yang Mei, Taoyuan City 326, Taiwan, in the period from Oct 12<sup>th</sup> to Oct 31<sup>th</sup>, 2023.

### **Roles and responsibilities**

The determination and reporting of GHG emissions are the sole responsibility of our client. Our role and responsibility as a third party was to independently verify the adequacy of the GHG emissions reported by our client, as well as the underlying systems and processes for data collection, analysis and control, in accordance with the requirements of ISO 14064-3:2019.

### **Standards for data processing**

ISO 14067:2018 ("Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification"), ISO 14044:2006 ("Environmental management – Life cycle assessment – Requirements and guidelines") and ISO 14040:2006 ("Environmental management – Life cycle assessment – Principles and framework").

### Scope of application / System boundaries

The GHG declaration includes the partial CFP of one pack of 2000pcs:

Common Mode Filter (WCM 2012F2SF-801-N)

The declared unit is defined as: per Pack of 2000pcs of the Common Mode Filter (WCM 2012F2SF-801-N).

The Lifecycle Inventory Analysis (LCI) was quantified with the models that consist of activity data times an emission factor in which obtains emission factors from databases such as Simapro – v9.3.0.2, Taiwan EPA Carbon Footprint Information Platform, and IPCC 2006 National GHG Inventory Guidelines. The considered production system and its boundaries are defined “cradle-to-gate”, the LCI covers the following stages: acquisition of raw material, and production. The GHG declaration covers the foreground processes at No.1 You 4th Rd., Youth Industrial District. Yang Mei, Taoyuan City, and the background processes outside the production site.

Downstream processes, which would include the transportation, use of products and end-of-life treatment of products, are not included in the GHG declaration.

stage	acquisition of raw material	production	transportation / delivery	use	end-of- life treatment
kg CO <sub>2e</sub> / Declared Unit	0.9963	14.2109	n.a.	n.a.	n.a.

Main GHG sources are “Outsourced Electricity” as the production stage emission.

No direct GHG removals or storages were present at the time of the verification.

The temporal representativeness is assumed to be 3 years.

### Relevant emissions in the balance

The greenhouse gas inventory contains the specified greenhouse gases with information as CO<sub>2</sub> equivalents.





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**Objectives of the verification**

Our verification was performed in accordance with ISO 14064-3:2019 "Specification with guidance for verification and validation of GHG statements" to critically review the data presented in the above named GHG statement and to identify any remaining inconsistencies.

**Criteria**

The data review was conducted according to the following criteria:

Relevance, completeness, accuracy, coherence, transparency of information and consistency.

**Agreed level of assurance**

reasonable

*Annotation:*

*At a reasonable - but not absolute - level of assurance, we verify that the GHG statement is substantially correct. This includes a review of the processes, data, and evidence on their correctness and accuracy with an appropriately adequate sample size.*

**Materiality threshold**

5 % for the total sum

**Methods of verification**

- Document review and reconciliation with documentation requirements
- Strategic analysis and risk assessment based on the submitted GHG declaration
- Interviews of personnel of TAI-TECH Corp, within the scope of audits
- Random sample checks of supporting evidence and database values
- Review of data and information systems and methodology for collection aggregation, analysis and verification of information used to determine GHG emissions
- Sample review of data and supporting documents for determination of GHG emissions
- Plausibility checks

## Conclusions

With our review of the greenhouse gases declaration of partial CFP Study Report of Common Mode Filter (WCM 2012F2SF-801-N) prepared by TAI-TECH Advanced Electronics Co., Ltd., we find that, in all material respects, the greenhouse gas emissions are presented fairly and factually in accordance with the specifications and standards used as a basis here.

Based on the results of our verification process, we confirm that the GHG statement is without material discrepancy, and the verification activities provide the level of assurance agreed to at the beginning of the verification process.

Our verification opinion is only to be interpreted together with the partial CFP Study Report of TAI-TECH Advanced Electronics Co., Ltd., released by TAI-TECH Advanced Electronics Co., Ltd..

This opinion is issued in accordance with the agreement reached with the client and within the framework of our validation and verification regulations.

Note: This opinion is issued, on behalf of the client, by TÜV SÜD under its general conditions for Greenhouse Gas Verification Service Description. The findings recorded hereon are based upon an audit performed by TÜV SÜD. A full copy of this opinion, the findings and the supporting GHG statement may be consulted at the organization. To check the validity of this opinion please call (+886-2-2898-6818). 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 TÜV SÜD and TÜV SÜD shall have no responsibility vis-à-vis parties other than its client