

Independent Assurance Statement

DNV Business Assurance Korea Ltd. (hereafter referred to as “DNV”) has been commissioned by Samsung Electronics Co., Ltd. (hereafter referred to as “Samsung Semiconductor”) to perform a verification of life cycle assessment on product carbon footprint for memory and foundry products, which are produced by Samsung Semiconductor’ domestic¹ and overseas² business sites.

Scope of Verification

The verification covers the life cycle assessment on product carbon footprint by Samsung Semiconductor. The verification has been performed with the sample-based audit at a limited level of assurance.

- Functional Unit: **Wafer Fabrication** (per chip or wafer) / **Packaging** (per production unit)
- Process: Semiconductor manufacturing process
- System Boundary: Cradle-to-Gate
- Covered Data Period: 1 January 2021 to 31 December 2021
- Impact Category: Global Warming Potentials (GWP)

Verification Criteria

The life cycle assessment on product carbon footprint was conducted by Samsung Semiconductor in accordance with ‘ISO 14040:2006’, ‘ISO14044:2006’, and ‘ISO 14067:2018’ and DNV’s verification was performed in accordance with the Greenhouse Gas (GHG) verification principles of ISO 14064-3:2019 (Part 3: Specification with guidance for the verification and validation of greenhouse gas assertion).

Limitations

The engagement is limited to the assessment of the life cycle assessment on product carbon footprint (including data of energy consumptions, raw materials and process gases used, and so on), calculated by Samsung semiconductor’s “Life Cycle Assessment Report”. DNV does not offer the guarantee of reliability if any material discrepancy which may impact on the product carbon footprint is subsequently brought to our attention after verification is completed.

Conclusions

DNV assessed the validity of the data input (data sources), conversion (Calculation) and output (LCA results) on the basis of the LCA Report. Limited depth of evidence gathering including inquiry and analytical procedures and limited sampling were applied. On the basis of the work undertaken, nothing comes to our attention to suggest that these data have material errors or been improperly processed.

29 December 2022
Seoul, Korea

Responsibilities of the Directors of Samsung Semiconductor and DNV

The Directors of Samsung Semiconductor have sole responsibility for the preparation of the Inventory Report. Our statement represents our independent opinion and is intended to inform all related stakeholders.

DNV was not involved in the preparation of any statements or data included in the Inventory Report except for this Assurance Statement.

DNV’s assurance engagements are based on the assumption that the data and information provided by the client to us as part of our review have been provided in good faith. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Independent Assurance Statement.

Competence and Independence

DNV’s established policies and procedures are designed to ensure that DNV, its personnel and, where applicable, others are subject to independence requirements (including personnel of other entities of DNV) and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of GHG assurance professionals.

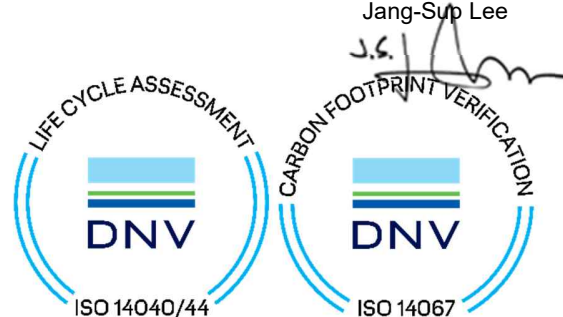
DNV - Business Assurance

DNV Business Assurance Korea Ltd. is part of DNV Group, a global provider of certification, verification, assessment and training services, assisting customers to achieve sustainable business performance.

www.dnv.co.kr/assurance

DNV Business Assurance Korea

Country Manager
Jang-Sup Lee



¹ Giheung, Hwaseong, Pyeongtaek, Onyang and Cheonan sites in Korea

² Samsung China Semiconductor (SCS), Samsung Electronics Suzhou Semiconductor (SESS) sites in China, Samsung Austin Semiconductor (SAS) site in US