# Life Cycle Assessment

Samsung is conducting various activities to review and improve the environmental impact of products. This document is a summary of the results of LCA conducted as part of these activities, which evaluates the potential environmental impact throughout the product's life cycle.

## ☐ Scope Definition

### Introduction

The LCA was performed for the life cycle of the below model in reference to ISO standards, relevant standards and PCRs. (Reference flow: 1EA)

| | | | |
|---|---|---|---|
| Target Model | **SM-S931** | Lifespan (yr) | 3.0 |
| Plant Country | Vietnam | Sales Country | USA |
| Standards referred | ISO 14040/44, ISO14067, ISO14064, PAS2050, GHG Protocol, Korean EPD Guide and PCRs(Product Category Rules) | | |
| LCIA methodology | CML v4.8 (Climate Change:IPCC) | | |
| Database used | Ecoinvent 3.10 | | |

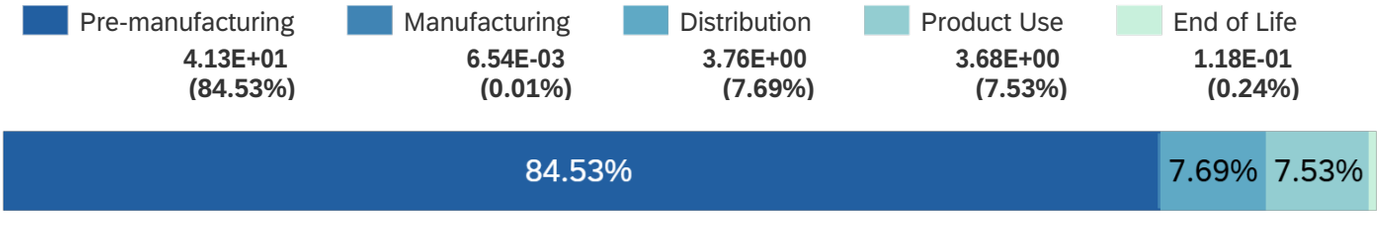
### System Boundary

The system boundary includes all stages of the life cycle from pre-manufacturing, Product manufacturing, Distribution, Use and to End-of-Life stages.

## ☐ LCA result

### Product Carbon Footprint 48.880205 kg CO2-eq

* Contribution results for Climate Change by life cycle stage




* Executed date of LCA : 2025.01.22

# LRQA Independent Assurance Statement

## Relating to Samsung Electronics Co., Ltd.'s carbon footprints of products

This Assurance Statement has been prepared for Samsung Electronics Co., Ltd. in accordance with our contract.

### Terms of engagement

LRQA was commissioned by Samsung Electronics Co., Ltd. (Samsung Electronics) to provide independent assurance on the carbon footprints of the mobile phones ("the CFPs") against the assurance criteria below to a limited level of assurance and a materiality of 5% using with ISO 14064-3:2019 *Specification with guidance for verification and validation of greenhouse gas statements*.

Our assurance engagement covered the Galaxy S25 manufactured in Samsung Electronics' Vietnam Plant, and specifically the following requirements:

- Verifying conformance with:
  - ISO 14040:2006 *Life cycle assessment - Principles and framework*
  - ISO 14044:2006 *Life cycle assessment - Requirements and guidelines*
  - ISO 14067:2018 *Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification*
- Evaluating the accuracy and reliability of data and information for the CFPs

LRQA's responsibility is only to Samsung Electronics. LRQA disclaims any liability or responsibility to others as explained in the end footnote. Samsung Electronics' responsibility is for collecting, aggregating, analyzing and presenting all the data and information relating to the CFPs and for maintaining effective internal controls over the systems from which the CFPs are derived. Ultimately, the CFPs have been approved by, and remain the responsibility of Samsung Electronics.

### LRQA's opinion

Based on LRQA's approach, nothing has come to our attention that would cause us to believe that Samsung Electronics has not, in all material respects:

- Met the requirements above
- Disclosed accurate and reliable data and information as summarized in Table 1 below. The opinion

expressed is formed on the basis of a limited level of assurance and at the materiality of 5%.

**Note:** The extent of evidence-gathering for a limited assurance engagement is less than for a reasonable assurance engagement. Limited assurance engagements focus on aggregated data rather than physically checking source data at sites. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

### LRQA's approach

LRQA's assurance engagements are carried out in accordance with our verification procedure. The following tasks though were undertaken as part of the evidence gathering process for this assurance engagement:

- Auditing Samsung Electronics data management systems to confirm that there were no significant errors, omissions or mis-statements in the CFPs. We did this by reviewing the effectiveness of data handling procedures, instructions and systems, including those for internal verification. We also spoke with those key people responsible for quantification of the CFPs.
- Checking whether secondary data used were from credible and/or recognized sources and transposed correctly into the product GHG inventory.
- Verifying historical GHG emissions data and records at an aggregated level.
- Checking whether the client requirements of Samsung Electronics related to the CFPs were reflected appropriately.

### LRQA's standards, competence and independence

LRQA implements and maintains a comprehensive management system that meets accreditation requirements for ISO 14065 *Greenhouse gases – Requirements for greenhouse gas validation and verification bodies for use in accreditation or other*

*forms of recognition* and ISO/IEC 17021 *Conformity assessment – Requirements for bodies providing audit and certification of management systems* that are at least as demanding as the requirements of the International Standard on Quality Control 1 and comply with the *Code of Ethics for Professional Accountants* issued by the International Ethics Standards Board for Accountants.

LRQA ensures the selection of appropriately qualified individuals based on their qualifications, training and experience. The outcome of all verification and certification assessments is then internally reviewed by senior management to ensure that the approach applied is rigorous and transparent.

LRQA is Samsung Electronics' verification body for its CDP report. The verification is the only work undertaken by LRQA for Samsung Electronics and as such does not compromise our independence or impartiality.

Dated: 31 March 2025

Signed

Chan-Sik Yun
LRQA Lead Verifier
On behalf of LRQA
2nd Floor, T Tower, 30, Sowol-ro 2-gil, Jung-gu, Seoul, Republic of Korea

LRQA reference: SEO00001731

**Table 1. Summary of the carbon footprints of Galaxy S25**

| | |
|---|---|
| Product and weight | Galaxy S25 SM-S931 model (327.90g) |
| Manufacturer and location | Samsung Electronics Vietnam Plant (SEV),<br>(KCN Yên, Yên Phong, Bac Ninh Province, Vietnam) |
| GHG inventory period | From 1 November 2023 to 31 October 2024 |
| System boundary | Cradle-to-Grave |
| Functional unit | 1EA of Galaxy S25 SM-S931 model (327.90g) |
| Global warming potential | IPCC 2021 climate change (GWP 100) |
| Carbon footprint<br>(by destination country) | Unit: $kgCO_2eq/EA$ |

| | | | | | |
|---|---|---|---|---|---|
| Austria | 4.45E+01 | Finland | 4.39E+01 | Latvia | 4.59E+01 |
| Belgium | 4.46E+01 | France | 4.37E+01 | Malta | 4.66E+01 |
| Bulgaria | 4.67E+01 | United Kingdom | 4.51E+01 | Netherlands | 4.59E+01 |
| Canada | 4.55E+01 | Greece | 4.74E+01 | Norway | 4.29E+01 |
| Switzerland | 4.31E+01 | Croatia | 4.60E+01 | Poland | 5.00E+01 |
| Cyprus | 5.08E+01 | Hungary | 4.57E+01 | Portugal | 4.55E+01 |
| Czech Republic | 4.77E+01 | Ireland | 4.55E+01 | Romania | 4.58E+01 |
| Germany | 4.59E+01 | Italy | 4.57E+01 | Sweden | 4.30E+01 |
| Denmark | 4.39E+01 | South Korea | 4.55E+01 | Slovenia | 4.55E+01 |
| Estonia | 4.58E+01 | Lithuania | 4.61E+01 | Slovakia | 4.58E+01 |
| Spain | 4.49E+01 | Luxembourg | 4.58E+01 | USA | 4.80E+01 |