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N9300 Series, 24p 100G Smart Switch

Life Cycle Assessment Summary: N9324C-SE1U

Goal and Scope

This summary presents the GHG emissions associated with the production, transport, use phase and end-of-life (EOL) of Cisco's N9324C-SE1U smart switch. It is based on the *Life Cycle Assessment Report: Cisco smart switch N9324C-SE1U* which is in alignment with the International Organization for Standardization (ISO) Standards 14040 and 14044 on LCA (ISO, 2006) and can be found in the Environmental Sustainability section of cisco.com. The underlying report and this summary have not been critically reviewed and are therefore not ISO-conformant.

Table 1: N9324C-SE1U Technical Specifications

Technical Data	N9324C-SE1U
Product weight	16.7 kg
Typical annual energy consumption[1]	6,832.8 kWh
Dimensions (H * W * D)	17.2 in x 17.3 in x 29.9 in

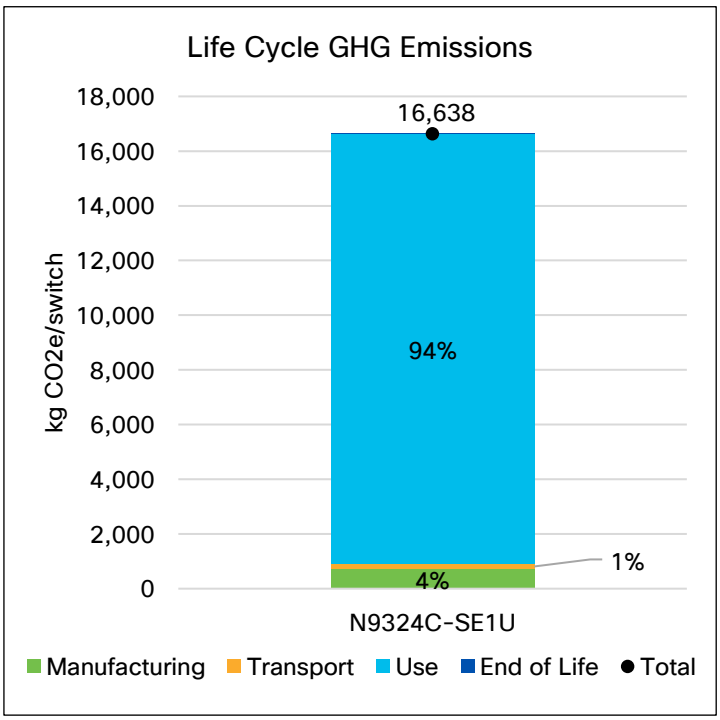
Note: [1]Typical annual energy consumption is estimated based on product function and assumed product use.

System Boundary

The model's system boundary was from cradle-to-grave for the life cycle inventory (LCI) and impact assessment and included raw material extraction and refinement, material transport, component manufacturing, assembly, testing, delivery, use phase and EOL. The product is disposed of at its EOL assuming a 5 year lifespan. The study assumes most electronics production occurs in Asia and all material inputs were matched to datasets that are either global averages or Chinese datasets. Manufacturing was modeled specifically for China, the use phase was assumed to take place in the United States and EOL was assumed as a global average.

Results

The GHG emissions (according to IPCC AR6 GWP 100, excluding biogenic carbon) per N9324**C**-SE1U smart switch were 16,638 kg CO2e. The GHG emissions were categorized into different life cycle stages covering manufacturing, transport, use phase and EOL. Both the manufacturing phase (4%) and use phase (94%) influence the overall impact, contributing 98 percent of the total for the N9324C-SE1U. Within the manufacturing phase, key electrical components such as the PCBs and ICs were the most significant drivers, contributingto 77 percent of the manufacturing impacts. The electro-mechanical components, such as power supplies, were the next largest driver of the manufacturing phase, contributing to 12 percent of the impact.



Life Cycle Phase	GHG Emissions (kg CO2e)
Manufacturing	708
Transport	208
Use	15,820
End of Life	1
Total	16,638

Note: Figures may not total 100 percent due to rounding of underlying data.

Limitations

There are a few key data limitations associated with electrical components and the use of secondary data for assembly and testing. Within the BOM, electrical components were matched to the components available in the LCA for Experts (formerly GaBi) and ecoinvent databases, which were not always an exact match. Proxied components were scaled by length and width or mass to reflect the number and type of components in the product under study.

Manufacturing burdens of the assembly and testing of the product were proxied using secondary datasets from ecoinvent. A limitation of the proxies is that they do not track operation improvements or changes over time.

Disclaimer: Data and other information in this report are estimates and indicative only, based on assumptions and approximations, for particular products and points in time. They are neither predictions, commitments or guarantees of actual outcomes nor intended for purposes other than identifying opportunities to improve the environmental performance of products at various points in their life cycle. Cisco and WSP continue to refine the methodology, modelling, and assumptions. Data and other information are therefore subject to change and uncertainties that are difficult to predict.

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Further information on Cisco's approach to Life Cycle Assessments (LCAs) is available at Cisco's Purpose Reporting Hub, at https://www.cisco.com/c/m/en_us/about/csr/esg-hub.html