Report generated: October 2024
Cisco Catalyst 9400 Series 7 slot chassis

Life Cycle Assessment Summary: C9407R

Goal and Scope

This summary presents the GHG emissions associated with the production, transport, use phase and end-of-life (EOL) of Cisco's C9407R Switch. It is based on the *Life Cycle Assessment Report: Catalyst C9407R Switch*, 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: C9407R Technical Specifications

Technical Data	C9407R
Chassis weight (with fan tray)	63.0 lb (28.58 kg)
Typical power consumption (Configured Chassis)	1,679 Watts
Dimensions (H * W * D)	17.41 in. x 17.30 in. x 16.30 in.
Rack Units	10 RU

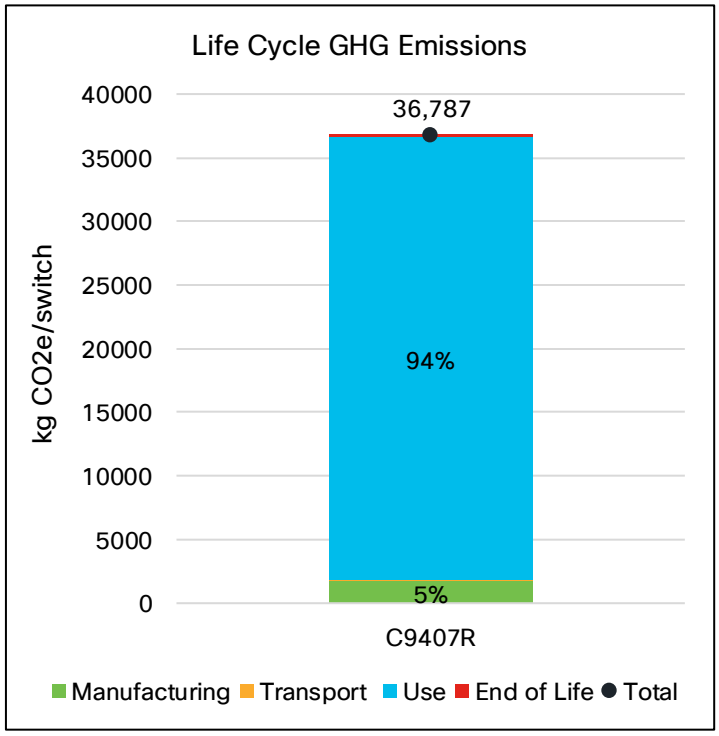
System Boundary

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 as the manufacturing country in terms of energy consumption. 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 C9407R switch were 36,787 kg CO2e. The GHG emissions were categorized into different life cycle stages covering manufacturing, transport, use phase and EOL. The use phase significantly influences the overall impact, contributing 94 percent of the total for the C9407R switch. The manufacturing phase was the second-largest contributor to GHG emissions, accounting for 5 percent of total GHG emissions per switch. Key electrical components (ICs and PCBs), contributing 51 percent, are the most significant driver among the manufacturing componets followed by mechanical components at 19 percent and electro-mechanical components at 18 percent.



Life Cycle Phase	GHG Emissions (kg CO2e)
Manufacturing	1,736
Transport	89
Use	34,754
End of Life	209
Total	36,787

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.

Cisco and WSP are not responsible for any errors or omissions in connection with the data and other information in this report. They are generated and provided "as is", with no guarantee of completeness, accuracy, or timeliness. They are made available without warranty of any kind, express or implied. In no event will Cisco and WSP, its affiliates, partners, agents, or employees be liable for any decision made or action taken in reliance on the Data and other information in this report, or for any consequential, special, or similar damages, even if advised of the possibility of such damages.

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