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Cisco 8201 Chassis w/ 24x400GE QSFP56-DD&12x100GE QSFP28

Life Cycle Assessment Summary: 8201-SYS

Goal and Scope

This summary presents the GHG emissions associated with the production, transport, use phase and end-of-life (EOL) of Cisco's 8201-SYS router. It is based on the *Life Cycle Assessment Report: Cisco Router 8201-SYS*, 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: 8201-SYS Technical Specifications

Technical Data	8201-SYS
Product weight	6.57 kg
Modeled product power[1]	415 W
Dimensions (H * W * D)	1.73 x 17.3 x 20.1 in.

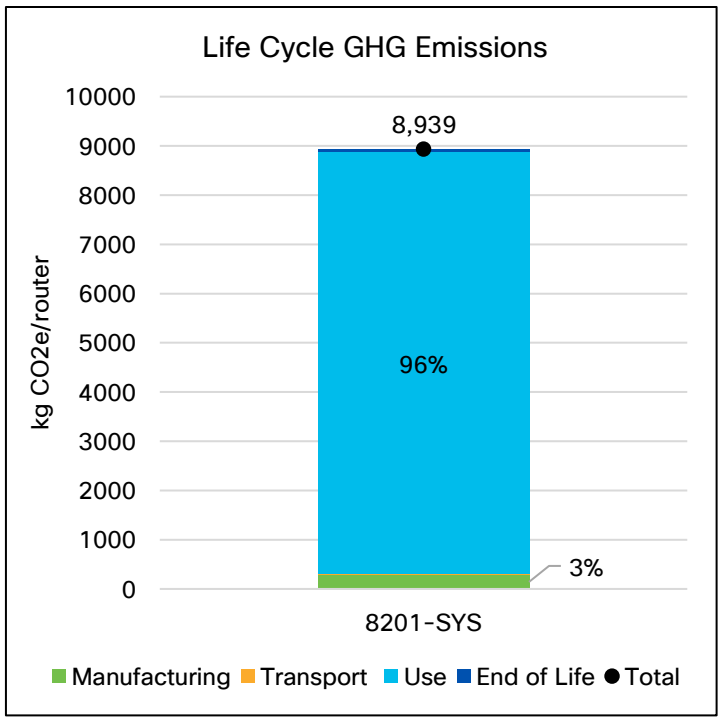
Note: [1]Modeled product power is estimated based on product function and assumed product use.

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 8201-SYS router were 8,939 kg CO2e. The GHG emissions were categorized into different life cycle stages covering manufacturing, transport, use phase and EOL. Both the manufacturing phase (3%) and use phase (96%) drive the overall impact, contributing 99% of the total for the router. Within the manufacturing phase, key electrical components such as the PCBs and ICs were the most significant drivers, contributing 64% of the manufacturing impacts. The electro-mechanical components, such as the power suppliers and fans, were the next largest driver of the manufacturing phase, contributing to 18% of the impact.



Life Cycle Phase	GHG Emissions (kg CO2e)
Manufacturing	285
Transport	16
Use	8,590
End of Life	48
Total	8,939

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.

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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