

# Product transport carbon footprint and goal

## Summary of Calculation Result

Scope of Products	- Notebook computers (TOUGHBOOK series) and related accessories in North America - Coverage 100%		
Year	FY2024, from April 2024 to March 2025		
Methodology used	ISO14083:2023		
Identification of Transport Chain	- From Factory to Taiwan Airport (by truck transport) - From Taiwan Airport to U.S. Airport (by air freight) - From U.S. Airport to State Consolidation Points (by truck transport)		
WTW GHG Emissions		Absolute GHG emissions (ton-CO2eq)	Normalized GHG emissions (g-CO2eq/ton-km)
	Total	5,093	612
	Air	5,042	610
	Road	37	682
	Logistic hubs	14	-
Third party verification	Refer to the following pages		
GHG reduction goal	5% reduction by FY2030, compared with FY2024		

※For details on the calculation method, please refer to the next page.

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## Detailed Method for Calculating Transport GHG Emissions

1	Reference to ISO 14083	Yes
2	Data quality	<ul style="list-style-type: none"> <li>• Transport Weight : Primary data provided by transport company</li> <li>• Transport Distance: <ul style="list-style-type: none"> <li>Factory to Airport in Taiwan: Search the route on Google Maps To pinpoint the exact locations of the factory and the airport.</li> <li>Airport in Taiwan to State Consolidation Point (U.S.): Model data from EcoTransIT To set routes based on ISO 14083-compliant methodology from a wide range of variations.</li> </ul> </li> <li>• Emission Factor : WTW emissions according to the GLEC Framework</li> </ul>
3	Transport activity distance	Truck Transport: SFD, Air Freight: GCD
4	Specification of any deviation to standard processes	
	Cutoff and exceptions	The transport distance for each route is fixed, and irregular transports such as route changes due to traffic conditions, are not considered.
	How to set representative cities	Group all shipment routes from the Taiwan factory by U.S. state, and identify the city with the highest transport weight in each state as the representative city.
	Logistics hub setup scenarios	<p>Since there is no actual data regarding the use of transport hubs, hubs are defined as follows.</p> <ul style="list-style-type: none"> <li>• At each point where the mode of transport changes</li> <li>• Once during domestic truck transport in the U.S., as a default setting</li> </ul>



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## Third-party verification report

**SuMPO conducted a third-party verification of greenhouse gas (GHG) emissions from the outbound logistics to resell Notebook computers (TOUGHBOOK series) and related accessories in North America, produced by Panasonic Connect Co., Ltd.**

**The draft and final calculations, evidence and disclosure are reviewed in reference to the requirements of ISO14083:2023.**

**It is assured that the data for the ISO14083 declaration was calculated according to ISO14083:2023 and in consistence with GLEC Framework Version 3.1.**

### **Summary of qualifications:**

**Sustainable Management Promotion Organization (SuMPO) has:**

- **more than 20 years of experience in LCA including carbon impacts of transportation**
- **more than 70 LCA experts' network**
- **been operating Carbon Footprint (CFP) and Environmental Products Declaration (EPD) program in Japan for over 20 years**

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