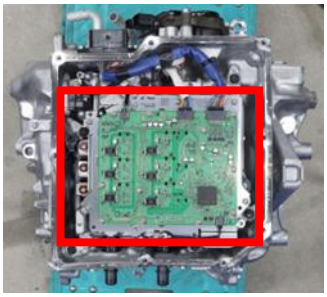
Inverter: DENSO (SUBARU SOLTERRA) PCB Circuit Analysis Report



Subaru Solterra



eAxle





Inverter Core Module

(Source)
https://www.subaru.jp/solterra/

Report Overview

In November 2025, an updated SUBARU SOLTERRA was released.
The vehicle is equipped with a new BluE Nexus eAxle incorporating a new DENSO inverter core module. Compared with the previous Si RC-IGBT inverter, the new design uses double-sided-cooled SiC MOSFET power modules, closely positioned capacitors, and an optimized carrier frequency, reducing power loss by approximately 70% and inverter size by approximately 30%.

This report presents a circuit analysis of the gate-driver board installed in the inverter core module of the front eAxle.
A teardown report of the inverter core module is also available.

Product Specifications

Subaru Solterra (2022)

Trim Level				AWD
Vehicle Price (incl. tax)			JPY	6.71 million
Range			km	567
Battery (Li-ion)		Capacity	kWh	72.8
eAxle	Front	Supplier		BluE Nexus
		Output	kW	80
		Torque	Nm	168
	Rear	Supplier		BluE Nexus
		Output	kW	80
		Torque	Nm	168

Subaru Solterra (2025)

Trim Level				AWD
Vehicle Price (incl. tax)			JPY	5.61 million
Range			km	746
Battery (Li-ion)		Capacity	kWh	74.7
eAxle	Front	Supplier		BluE Nexus
		Output	kW	165
		Torque	Nm	268
	Rear	Supplier		BluE Nexus
		Output	kW	85
		Torque	Nm	88.3

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Report contents

PCB Circuit Analysis Report

You may select the report you need from the three options below.

1. Full circuit analysis:
   Inverter control circuits (common circuits) + all three phases of the drive circuits
2. Partial circuit analysis:
   Inverter control circuits (common circuits) + one phase of the drive circuit only
3. Partial circuit analysis:
   One phase of the drive circuit only

・The circuit analysis report includes teardown section of the unit

Please contact us for report pricing.

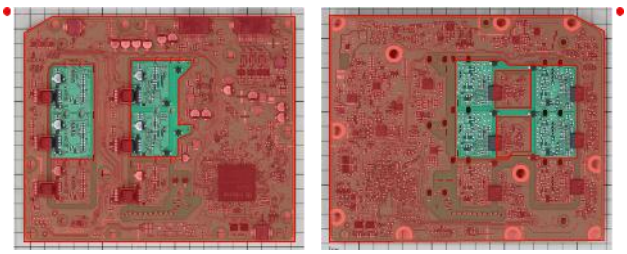
1) Teardown Report

Target Functions	Analysis Scope
Inverter Core Module *Does not include the motor or reduction gear	• Comparison of eAxle and inverter core module dimensions, weight, and appearance with the bZ4X (2022) • Product teardown process; individual components; mounting locations; screw fastening points; labels; and markings (supplier, country of origin, dimensions, weight, material, application, manufacturing method, etc.) • Major-component survey • Components installed in the unit (power modules, smoothing capacitors, etc.) • Gate driver board

2) PCB Circuit Analysis Report

Target Functions	Analysis Scope
Inverter Core Module	Product Teardown Process 1. Full Circuit Analysis: Inverter Control and Other Common Circuits + Three-Phase Gate-Drive Circuits 2. Partial Circuit Analysis: Inverter control circuits (common circuits) + one phase of the drive circuit only 3. Partial Circuit Analysis: One phase of the drive circuit only

*Refer to the figures below for analysis areas 2. and 3.



2. Analysis Area



3. Analysis Area

*The area outlined in red is included in the analysis scope.

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Teardown Report

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