



**MUNRO**

# **PRINTED CIRCUIT BOARD**

## **Bill of Material**

***Tesla Cybertruck (Q4 2023)***

***Hyundai IONIQ5 (2023)***

***GMC Hummer EV EDM (2023)***

***Lucid Air EDM (2022)***

***Rivian R1T (2022)***

***Ford F-150 Lightning (2022)***

***Tesla Model S Plaid (2022)***

***Tesla Model Y (2020)***

***Ford Mach-E (2021)***

MUNRO & ASSOCIATES

1140 Centre Rd, Auburn Hills, MI 48326 USA

Phone: 1-248-362-5110

## PRINTED CIRCUIT BOARD BOM REPORT

This report includes a comprehensive list of the components on each main vehicle circuit board. Each component listed includes its associated part number, quantity per board, vendor, part description and other notable markings. Included are high resolution photographs of the top and bottom of each circuit board.

Component	Description	Qty	Notes & Marking Codes
Printed Circuit Board	270 x 164 mm, 6 layers Assumed, FR4	1	10.63 x 6.46 inches (54.91 sq. in.)
Label	Label, 25 x 7mm, B&W, (P) 1514604-00-D Rev01, (S) B7S20031000009	1	
<b>Top PCBA Components</b>			
Spade Terminal	6.35mm Spade Terminal, Compliant	6	
Spade Terminal	4.81mm Spade Terminal, Compliant	1	
Spade Terminal	1.50mm Spade Terminal, Compliant	83	
Spade Terminal	0.64mm Spade Terminal, Compliant	159	
SPC56EC74B3C9EEX, STMicro	SPC56EC74B3C9EEX, MCU 32-Bit Dual Core RISC 3MB Flash 3V/5V 256-LBGA	1	U1, SPC56EC74B3
SPC560C50L3C6E0Y, STMicro	SPC560C50L3C6E0Y, MCU 32-bit RISC 512KB Flash 3.3V/5V 100-Pin LQFP	1	U2, SPC560C50L3
NCV7707DQR2G, ON Semi	NCV7707DQR2G, Motor Driver 5.5V to 28V 36-Pin SSOP	1	U8, NCV7707
DRV8305NQPHPQ1, TI	DRV8305NQPHPQ1, 3-Phase Gate Driver 4.3V to 45V 48-Pin HTQFP	1	U626, DRV8305NQ
TMS320F28027PTQ, TI	TMS320F28027PTQ, MCU 32-bit C28x RISC 64KB Flash 3.3V 48-Pin LQFP	1	U628, F28027PPTQ
DRV8703DQRHBRQ1, TI	DRV8703DQRHBRQ1, Driver 0.5A Half Bridge Inv/Non-Inv 32-Pin VQFN	8	U18, 19, 24, 25, 26, 27, 613 & U636, DRV8703
DRV8702QRHBRQ1, TI	DRV8702QRHBRQ1, Driver 3.6V Half Bridge Inv/Non-Inv 32-Pin VQFN	1	U21, DRV8702
2901AVO, TI	2901AVO, Comparator Quad R-R O/P +1.6V/32V Automotive 14-Pin TSSOP	4	U20, 29, 621, 633 & U637, 2901AVO

Index
<a href="#">Vehicle Controller Left</a>
<a href="#">Vehicle Controller Right</a>
<a href="#">Vehicle Controller Front</a>
<b>Onboard Charger (OBC)</b>
<a href="#">OBC Main Board</a>
<a href="#">OBC Filter Board</a>
<a href="#">High Voltage System Controller</a>
<a href="#">Battery Management Modules</a>
<a href="#">Charge Port Controller</a>
<b>Inverter Converter</b>
<a href="#">Rear Inverter Converter PCBA</a>
<a href="#">Front Inverter Converter PCBA</a>
<b>Touchscreen</b>
<a href="#">Touchscreen PCBA</a>
<b>ADAS Module (Hardware Level 2.5)</b>
<a href="#">ADAS Main Board</a>
<a href="#">ADAS I/O Board</a>
<a href="#">ADAS LTE</a>
<a href="#">GPS Antenna</a>
<a href="#">Antenna Module</a>
<a href="#">Antenna Filter, RH &amp; LH</a>
<a href="#">8-Pillar RFID Receiver</a>
<a href="#">Bluetooth LE Antenna</a>
<a href="#">Central Security Module</a>
<a href="#">Rain, Humidity &amp; Temperature Sense</a>
<a href="#">Overhead Console Main Board</a>
<a href="#">Overhead Console Communication Board</a>
<a href="#">Front USB Hub</a>
<a href="#">Rear USB Port</a>

Each PCB Excel workbook contains 20 to 25 tabs depending on vehicle content. Each tab details a printed circuit board.

Component	Description	Qty	Notes & Marking Codes
Printed Circuit Board 1	PCB 14x10mm, 2 layers FR4	1	100 x 100 mm (39.37 sq. in.)
Printed Circuit Board 2	PCB 2, 8x10mm, 2 layers FR4	1	100 x 100 mm (39.37 sq. in.)
<b>PCBA 1 Components</b>			
Control Voltage Indicator	Fabric Single PCB Core-Coin	4	
SRP Capacitor	SRP Capacitor	1	
SRP Resistor	SRP Resistor	2	
<b>PCBA 2 Components</b>			
Control Voltage Indicator	Fabric Single PCB Core-Coin	2	
SRP Resistor	SRP Resistor	2	
<b>Parts Total</b>		<b>16</b>	



- Index
- Vehicle Controller Left
- Vehicle Controller Right
- ADAS IO PCBA
- ADAS LTE PCBA
- GPS Antenna (ROM)
- Antenna Module
- Antenna Filter, RH & LH

# PCB BILL OF MATERIAL REPORT INDEX \*

## ◆ Controllers

Vehicle Controller Left  
Vehicle Controller Right  
Vehicle Controller Front

## ◆ Onboard Charger (OBC)

OBC Main Board  
OBC Filter Board  
High Voltage System Controller  
Battery Management Modules  
Charge Port Controller

## ◆ Inverter Converter

Rear Inverter Converter PCBA  
Front Inverter Converter PCBA

## ◆ Touchscreen

Touchscreen PCBA

## ◆ ADAS Module

ADAS Main Board  
ADAS I/O Board  
ADAS LTE  
GPS Antenna  
Antenna Module  
Antenna Filter, RH & LH

## ◆ B-Pillar RFID Receiver

Bluetooth LE Antenna  
Central Security Module  
Rain, Humidity, & Temperature Sense  
Overhead Console Main Board  
Overhead Console Communication Board

## ◆ Front USB Hub

Rear USB port

\* Vehicle PCB content will vary.

## REPORT DELIVERY

- ◆ All reports and accompanying deliverables will be made available for easy access through a secure File Transfer Protocol (FTP) site.
- ◆ The Excel report features a linked index, allowing users to easily navigate the report contents and quickly locate specific data.

## REPORT FEE

- ◆ Vehicle reports can be purchased separately for \$20,000. If multiple reports are requested, Munro can offer a bundle discount.
- ◆ Reports are delivered upon payment.

## LEGAL DISCLAIMER & SALES CONDITION

- ◆ ***Is purchaser allowed to reproduce, distribute, disseminate, photocopy, fax, or transmit report content internally within the purchaser's organization?***

Internal company distribution is authorized. The purchasing company is not legally permitted to reproduce, distribute, disseminate, photocopy, fax, transmit, sell, publish, or send this material, or any portion thereof, to an outside entity, by any means without the express written permission of Munro & Associates, Inc. under penalty of law. The report is copyright protected.

- ◆ ***If there are limited specific questions in the content of the report, is it possible for a Munro representative to support a phone call or e-mail communication?***

Yes, please contact [reports@leandesign.com](mailto:reports@leandesign.com) and we will respond with our answers.