

Electric Power Steering (EPS) : Xiaomi SU7 Teardown Report

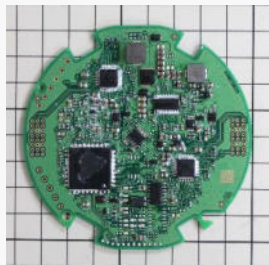


Xiaomi SU7 (from Web info)

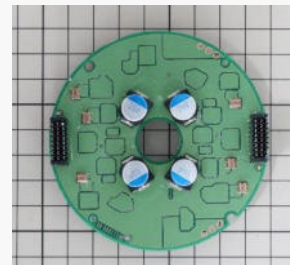
<https://hu.motor1.com/news/703064/xiaomi-su7-onallo-parkolas-video/>



Overview of EPS unit



Control PCB



Motor Drive PCB

Overview

Xiaomi, the Chinese electrical appliance maker announced its first battery electric vehicle (BEV) Xiaomi SU7 in March 2024.

Rack parallel type RP-EPS(Electric Power Steering) with excellent steering performance, in which motors and ECU are installed close to tires is used in this vehicle.

This is a teardown report of EPS installed in Xiaomi SU7 with grade Max.

Product features

- Rack-parallel EPS

✂The Motor Drive PCB and the Control PCB are mounted on the bottom of the motor, which is arranged in parallel with the rack, and the torque sensor is mounted on the base of the steering wheel.

Report Contents (26 pages)

- Product teardown, parts measurement (size & weight)
- Identification of key ICs on the PCB (including datasheet, if we found).

Report price

Delivery one week after order placement

Please contact us for report pricing

Table of Contents

Page

Summary

Table 1

Product Information

... 3

Product Teardown

Product Overview

... 4

Installation Status 【Resin Cover (Control PCB Attached)】

... 5

Installation Status 【Control PCB】

... 6

Installation Status 【Control PCB (Resin Removed)】

... 7

Installation Status 【Resin Cover】

... 8

Installation Status 【Metal Parts】

... 9

Installation Status 【Motor Drive PCB】

... 10

Installation Status 【Motor Drive PCB (Resin Removed)】

... 11

Installation Status 【Housing】

... 12

Installation Status 【Cover 1 (Torque Sensor Part)】

... 13

Installation Status 【Cover 2 (Torque Sensor Part)】

... 14

Installation Status 【Torque Sensor PCB】

... 15

Installation Status 【Torque Sensor PCB (Resin Removed)】 】

... 16

Overview

Fig. 1-1

Control PCB Overview

... 13

Fig. 1-2

Motor Drive PCB Overview

... 14

Fig. 1-3

Torque Sensor PCB Overview

... 15

Fig. 2-1

Identification of Key ICs (manufacture, function, etc.) on Control PCB (Top View)

... 16

Fig. 2-2

Identification of Key ICs (manufacture, function, etc.) on Motor Drive PCB (Bottom View)

... 17

Fig. 2-3

Identification of Key ICs (manufacture, function, etc.) on Torque Sensor PCB (Bottom View)

... 16

Fig. 3-1

Moisture-Proofed Area of Control PCB

... 18

Fig. 3-2

Moisture-Proofed Area of Motor Drive PCB

... 18

Fig. 3-3

Moisture-Proofed Area of Torque Sensor PCB

... 18

Connection

Fig. 4

Connection Diagram

... 26

