

System integration of autonomous driving and electric vehicle



4 Feature

This technology provides the systems integration of autonomous driving and electric vehicle. ARTC designs and constructs a mini electric bus, and the bus equipped with the autonomous driving system developed by ARTC. The objective is to realize the intelligent transportation system by the vehicles equipped with automatic driving function and network connected function to improve the traffic effectiveness. The vehicle integrats the techniques of the electric chassis systems, powertrain system, human machine interface, harness layout, vehicle construction and interior/exterior design to realize the electric vehicle design, and to dispose the sensing modules, vehicle positioning modules, internet of vehicle-mounted device and computing platforms to achieve the autonomous driving function.

4 Technique

- 1. System integration of electric vehicle
- 2. System integration technique for X-by-wire chassis system
- 3. The design and simulation of vehicular structure
- 4. System plan and integration for autonomous driving system

4 Specification

- 1. Electric Autonomous driving bus with 15 occupants
- 2. Maximum vehicle velocity ≤ 50 kph
- 3. Maximum gradeability ≤20%
- 4. Equips Lidar, camera and Radar modules
- 5. Equips RTKGPS, DSRC and T-box modules
- 6. Equips autonomous driving computing platform





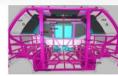
Demonstration



All wheel drive, dual power motor, battery management system, power charge system

Structure & Body

Vehicle body & chassis design







Steering system, four wheel steer, ESC, iBooster

Positioning system

RTK-GPS, SLAM

Sensing system

Camera,Radar,2D/3 D-LiDAR





Decision & Control

QNX OS, Embedded system, vehicle control



Network connection

HMI,T-Box,CV2X,DSRC





System integration for the E-Auto Shuttle