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ASENSING

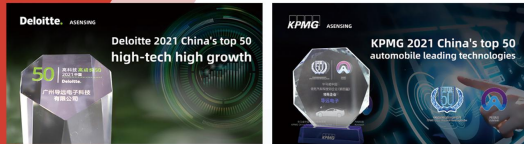
Lane-level positioning solutions for Autonomous Driving



PENG P7 NGP

A SENSING

High Precision Positioning
Creates Safety and Convenience in Mobility



- Leading supplier focused on High-precision positioning technology for ADAS, Automated Driving.
- Designs, develops, manufactures and sells high performance integrated navigation software and systems.
- Founded in 2014, the first supplier to commercialize the High-precision Integrated Navigation System in the automotive industry, mass production began in 2018.
- 3 R&D Centers
- 2 Manufacturing Bases



SOLUTION APPLICATIONS

Lane-level positioning solutions for Autonomous Driving
Nominated by 15 OEMs over 30 Models



HIGH-PRECISION INTEGRATED NAVIGATION SYSTEM (P-BOX)

- OOS/only Tight-Couple Navigation Model
- Data Fusion of GNSS, IMU and vehicle dynamics
- Positioning error < 20 cm
- ISO 26262 ASIL-B

Positioning Accuracy

- Open-sky (horizontal): 0.2m (2σ)
- Complex environments: 1m (95% coverage)
- Attitude accuracy: 0.2° (2σ)
- Dead-Reckoning accuracy: 0.2% of distance (2σ, in 1km or 2min)
- Heading drift : 0.15°/min (2σ)
- Position latency : <10ms with PPS sync

Asensing's P-Box is a functional-safety high-precision positioning solution for Autonomous Driving.

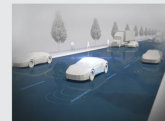
P-Box is featured with tight-couple model, data fusion of vehicle dynamics, IMU, GNSS/RTK/PPP-RTK.

P-Box is designed to deliver precise, low-latency and robust navigation/positioning information(Position, Velocity, Attitude, Timing) in any environment, even when GNSS is blocked or down-graded (i.e. dense urban, tunnels, garages).

Typical application: HWP(NO A、NGP), TJA, AVP.



GNSS IMU tight-couple Model



Lane-level positioning (HWP, TJA)



Auto valet parking (AVP)



HD-MAPBOX

- Vision Enhanced Positioning
- Data Fusion of RTK, IMU, Camera, HD-Map, GPS and GNSS
- ISO 26262 ASIL-B

- High-precision Positioning
- HD-Map
- EHP (ADASIS V3)
- Geo-fencing
- OTA supported
- Functional safety ASIL-B

Reliability

- Automotive design, validation and production process
- Multi GNSS constellation supported: GPS, GLONASS, BeiDou, Galileo, QZSS, SBAS
- Dual or triple band RTK supported
- High performance IMU with calibration
- Functional safety: ASIL-B
- Performance guaranteed : over the vehicle lifetime

HD-MapBox is a superior solution for lane-level positioning.

HD-MapBox is featured with Vision Enhanced Positioning.

Based on data fusion of the GNSS, IMU, camera, vehicle dynamics and HD-map, HD-MapBox enables vehicles to keep in lane at least 400m(3σ) at any condition, even when the GNSS or/and lane detecting are not functioning.

Typical application: HWP(NO A、NGP), TJA, AVP, PCC (predictive cruise control), Crowd-sourcing Mapping.