

Cartex 4H

Cartex 4H is a cutting-edge perception software stack, for premium front-facing ADAS smart-camera or entry-level ADAS Domain Control Unit (ADCU). Autobrain's Cartex 4H provides a rich, modular, and hardware agnostic feature set, including premium perception features at low cost, for ADAS/AD applications targeting L1-L2+ automated driving level.

★★★★★

Premium Quality

Cartex 4H provides premium perception quality, with **higher granularity** than any existing market solution



Cost Saving


Cartex 4H allows automotive manufacturers a **30% reduction** in overall ADAS/AD system components cost compared to incumbent solutions




Unique Features

Cartex 4H introduces brand new and unique perception features based on Autobrain's revolutionary **self-learning AI**


Vehicle Functions




Advanced Adaptive Cruise Control (ACC) – in highway and urban environments. Including stop and go in traffic lights and free space based manoeuvring




Automatic Emergency Steering (AES)




Advanced Long-range Automatic Emergency Braking (AEB) and Forward Collision Warning (FCW). **Including vehicles, vulnerable road users (VRU), pedestrian auxiliary objects, and animals**



Road Departure Protection (RDP) and Lane Departure Protection (LDP)













Intelligent Speed Assist (ISA) and High Beam Control (HBC)



Lane Departure Warning (LDW), Lane Centering Function (LCF), Lane Keeping Assist (LKA), Lane Change Assist

Perception Features

Object	Types
3D Vehicle Detection	 Passenger cars  Trucks  Vans  Motorbikes  Emergency Vehicle
VRU Detection	 Pedestrians  Cyclists  Auxiliary Objects
Road Environment	 Lanes  Road Edges  Road Markings  Traffic Lights  Traffic Signs  Large Animals
Contextual Perception	 Free Space  Hazard (falling cargo)  Open Door  Light Source Detection  Construction Zone

Regulation

EuroNCAP 2023 5 stars and 2025 4 stars EU GSR

SOP Availability

Cartex 4H is available for vehicles start of production from Q3 2022.

Hardware

SoC:

- 3 TOPs and above for front-facing-camera applications
- 10 TOPs and above for multiple camera ADCU applications

Camera:

2MP - 8MP, 120° Field of View (FOV)

Radar:

Up to 5 radar sensors - one long-range front radar sensor and four short range corner radar sensors

Enhancement Add-ons:

Cartex Fusion

Autobrain's unique low-level radar fusion technology can provide added features, including low-visibility and harsh weather conditions perception, Enhanced Range/Velocity/Orientation Measurement and Crossing vehicle detection.

Driver Monitoring System

Cartex 4H enables integration of third-party Driver Monitoring System (DMS) applications over the same SoC.

High-Resolution Camera

Using Cartex 4H with an 8MP camera, enables unique and extremely high granularity perception features, for example, detection of lost cargo, and open doors.