

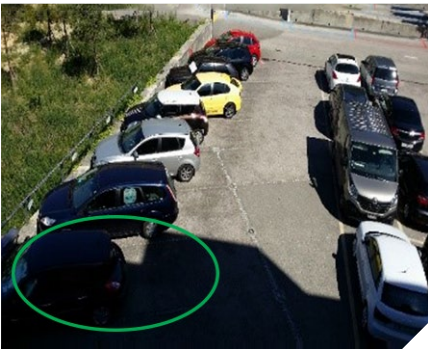
INTELLIGENT VISION SENSING AT THE NODE AND IN THE SHADOWS



The ADIS1700x for Smart City and Building Applications

Introducing an embedded vision sensing module engineered for a full range of emerging real-time, smart city and smart building applications, such as parking, traffic monitoring, and municipal light control. The **ADIS1700x** brings both advanced imaging and intelligence to the edge. The log imager enables clear, accurate imaging in both extreme brightness and darkness. It also generates output contrast at the pixel level, greatly reducing processing load. This allows for on-board algorithms that can deliver at-the-node analytics, so it's possible to accurately and reliably distinguish between different objects, such as people and vehicles. In addition, decisions to process and act on data locally or transmit them to the cloud can now happen at the edge, greatly improving latency, bandwidth, power consumption, cost, and the effectiveness of the cloud application.

Better Imaging Comes Out of the Shadows



Conventional CMOS Imager



ADVIS200x Imager (SNAP Sensor)

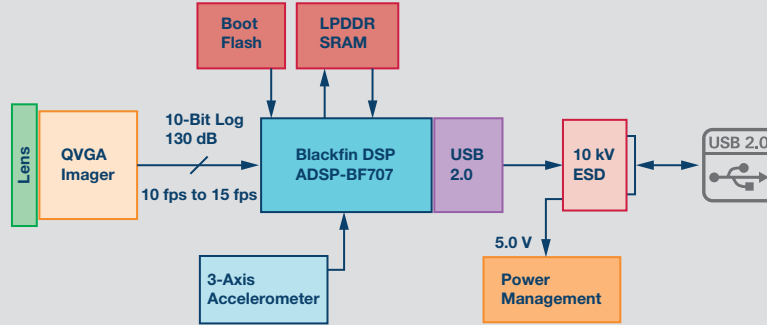
Target Applications

- ▶ Smart city video analytics
- ▶ Parking spot monitoring
- ▶ Parking violation enforcement
- ▶ Traffic queue length detection
- ▶ Industrial analytics and lighting

This 45 mm × 45 mm Device Features

- ▶ A 400 MHz Blackfin® processor and 110 mW power consumption for low power, low cost imaging at the edge
- ▶ Conformal coating and certifications for outdoor operation
- ▶ Choice of 110° or 67° HFOV
- ▶ High dynamic range image sensor (130 dB)
- ▶ Interface for USB 2.0 HOST compliant devices, including single board computers
- ▶ Can be used for evaluation purposes, as well as mass deployment

Block Diagram



ADIS1700x Specifications and Details

Major Active Components

- ▶ Processor: ADSP-BF707WCCPZ-4
- ▶ Imager: ADVS200x (QVGA ultrahigh dynamic range logarithmic sensor)
- ▶ 130 dB dynamic range
- ▶ Lens: [ADIS17001](#) provides a 110° horizontal FOV lens, while the ADIS17002 provides a 67° FOV
- ▶ Power management
- ▶ Interface: USB

Specifications

- ▶ Supply voltage: 5 V
- ▶ Form factor: 45 mm × 45 mm
- ▶ IP protection degree of IP60
- ▶ Temperature rating of -40°C to +85°C
- ▶ 10 kV ESD interface protection
- ▶ Programmable operation and control for environment recognition
- ▶ Edge tracking and homography analytics algorithm for tracking and counting object motion

For more information and to order samples, visit analog.com/ADIS17001

SNAP Framework

A line of products or family of products need a scalable, flexible, and modular internal platform to develop, deploy, and maintain system solutions. Imaging products in embedded systems have the additional challenge to handle Mbps of data and still have real-time performance. The ability to control, configure, execute, and visualize real-time data and states in a graphical environment is essential to develop, debug, and deploy solutions quickly. The SNAP framework was developed with an OOPS-based platform to sense, store, communicate, and process. The SNAP framework offers a high level of services and removes the burden of handling sensors, storage, and communication devices, which lets users concentrate their effort only on the data and control flow. Users are enabled to build applications quickly in this framework using CCES and the GUI. The SNAP framework has a hierarchical structure. The software system is broken down into subsystems with two different levels—the service layer and driver layer.



ADIS17002 Module

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