AD-FMCLIDAR1-EBZ: High-Performance LiDAR Prototyping Platform

Enables modular, flexible and shorter design processes for both hardware and software development of LiDAR systems

LiDAR (Light Detection and Ranging) sensing systems have use cases that extend beyond automotive industry - industrial robots, drones, UAVs, and other autonomous applications are increasingly employing LiDAR-based technology for self-guiding functionality.

The AD-FMCLIDAR1-EBZ prototyping platform is designed to reduce customer system development time, and shorten the path to a working prototype. The modular approach gives customers flexibility to swap various components and still use the base platform. With an industry compatible connector the customer can choose their preferred FPGA platform.

The software framework is common across all hardware variants, developed with industry standard tools and interfaces. The necessary parameters are exposed for customers to develop their own proprietary solutions. Support is provided to cover a broad base of operating systems used across different industry areas. There is a proven ADI JESD framework available to reduce development complexity, time, and guarantees deterministic transfer of data from the APD to the host processing system.

Software Support:

- Complete open source software framework
- Licensable JESD204B interface framework for deterministic data delivery to host
- Wrappers for MATLAB, Python, Baidu Apollo
- LiDAR specific API for system control & data acquisition
- Support for Linux and Windows
- HDL reference designs and drivers to allow zero-day development

LiDAR prototyping kit with open source software for common industry development platforms. Use cases include:

- Robotics
- UAVs, drones
- Industrial robots
- Farm equipment
- Oil & gas, mining
- ADAS
Key Features of the Platform:

- 1D non-scanning LiDAR
- 905nm laser wavelength
- Up to 60m range
- Horizontal resolution 16 pixels
- Data sampling of 1GSPS 4x channels
- FOV: 15° horizontal x 1° vertical
- Design is certified to comply with Class 1 Laser Safety IEC 60825-1:2014
- Standardized FMC connector plugs into FPGA board of choice
- Out-of-box demo for basic calibration and target range measurement

Ordering Information

Part #: AD-FMCLIDAR1-EBZ.
Engineering samples available in Q2’19 and production in Q3’19.