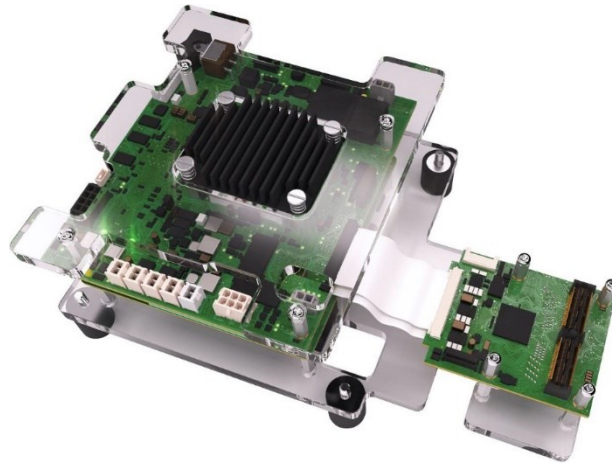


LCA3 LeddarEngine™ Evaluation Board

LeddarEngine - LiDAR Data Acquisition and Processing Solution



Test and Discover the LCA3 LeddarEngine Features

- Inject electric pulses directly into 2 photodiode inputs through the pulse injection connectors;
- Synchronize external testing equipment with the Laser Trigger;
- Visualize detections and change configurations using LeddarViewer™ software on your computer.

Build Your LiDAR Thanks to Its Versatile Design and Its Documentation

- Interface to various photodetectors and access the 64 LeddarCore™ inputs through the photodiode connector;

- Control an external laser board through the laser connector;
- Interface with a resonant MEMS mirror through the MEMS interface connector;
- Interface with digital beam steering devices;
- Integrated CPU platform with the Renesas R-CAR V3H Starter Kit Y-ASK-RCAR-V3H-WS11
- Run the LidarApp Software Demo, or build your own software with the LeddarEngine application programming interface (API);
- Integrate LeddarEngine into your own LiDAR.

Preliminary Specifications

System-on-chip	LCA3 (Revision A – Engineering samples)
Digital signal processing library	LeddarSP™
Demo LiDAR software	LCA3 LidarApp Demo (firmware)
LeddarViewer	PC software (Windows 7 and later)
Microprocessor board	Renesas V3H Starter Kit ASK-RCAR-V3H-WS11 (Operating system: QNX 7.0)
Power input	10-15 VDC
Power consumption	34 W typical (2.8 A @ 12 VDC) 230 W max. <ul style="list-style-type: none"> • 34 W: LCA3 Evaluation Board + V3H Starter Kit • 196 W: Available for external modules <i>Power supply CUI SDI90-12-U-P5 provided: (100-240 VAC, 50-60 Hz, 1.2 A max. / 12 VDC, 7 A)</i>
Form factor	61.45 mm x 49.50 mm (acquisition board) 105 mm x 110 mm (main board)

LeddarEngine™ Evaluation Board

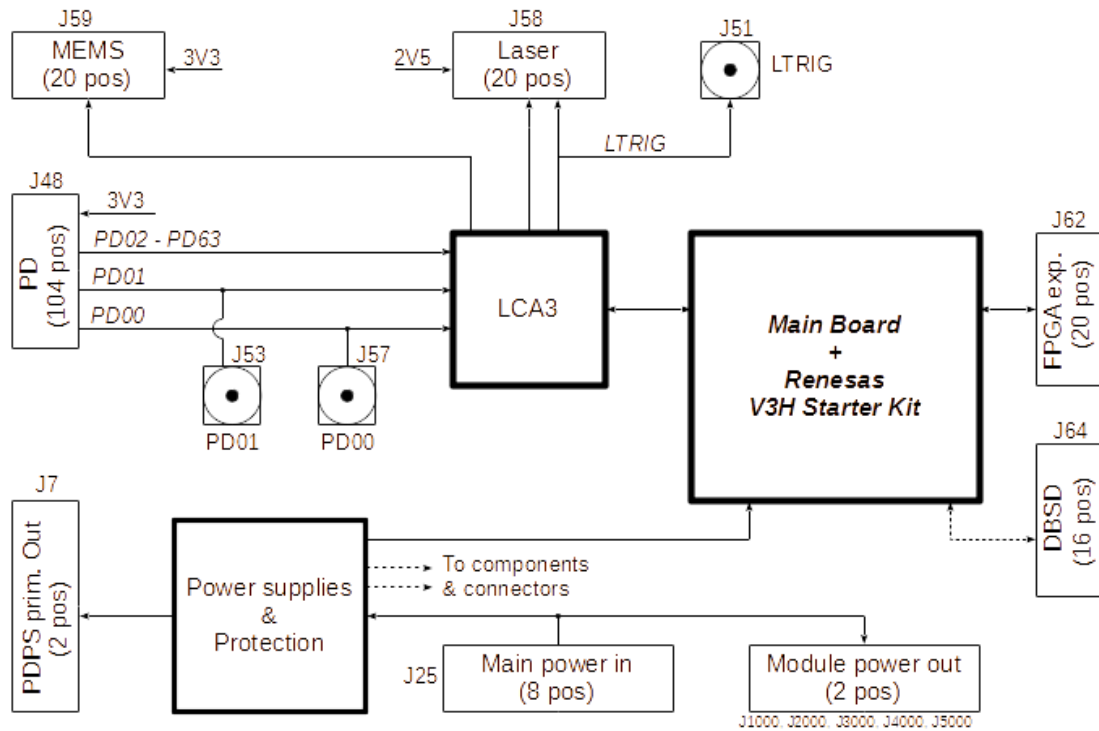


Figure 1: Evaluation board block diagram

Main interface connectors	
Main power in (J25)	8 pos. / Molex 0430450814 <i>Mating: Molex 430250810</i>
Module power out (J1000, J2000, J3000, J4000, J5000)	5 x 2 pos. / Samtec IPL1-102-01-L-S-K <i>Mating: Samtec IPD1-02-S-K</i>
Photodiode interface (J48)	104 pos. / Samtec QFSS-052-04.25-L-D-A-P <i>Mating: QFMS-052-06.75-L-D-A-P</i>
Photodiode power supply interface (J7)	2 pos. / Molex 0436500215 <i>Mating: Molex 436450210</i>
Laser module interface (J58) MEMS mirror interface (J59) FPGA expansion interface (J62)	20 pos. / Molex 5019512050 (FFC/FPC – 0.5 mm) <i>Mating: Molex Premo-Flex FFC cable 150200205</i>
DBSD interface (J64)	16 pos. / Molex 5019511650 <i>Mating: Molex 150200161</i>
Signal injection PD00 and PD01 (J53 & J57) Laser trigger (J51)	SMP connector (50 Ω) / Molex 853050232
Ethernet port	On Renesas V3H Starter Kit ASK-RCAR-V3H-WS11

Ordering Information

EVALBOARD-LCA3-A1

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CANADA – USA – AUSTRIA – FRANCE – GERMANY – ITALY – ISRAEL – HONG KONG – CHINA

Head Office

4535, boulevard Wilfrid-Hamel, Suite 240
Québec (Québec) G1P 2J7, Canada
leddartech.com

Phone: + 1-418-653-9000

Toll-free: 1-855-865-9900