LCA2 LeddarEngine™ Evaluation Board

Discover the Powerful Engine at the Core of our Auto & Mobility LiDAR Platform
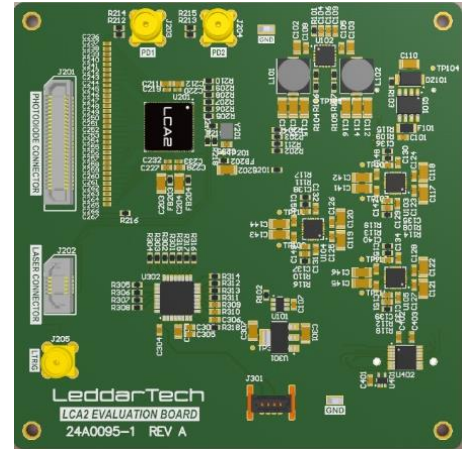
Test and discover the LCA2 LeddarEngine features:

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

Build your LiDAR thanks to its versatile design:

- Interface to various photodetectors using the photodiode connector;
  The 32 LeddarCore® inputs are available through the Photodiode connector;
- Control the external Laser board through the Laser connector;
- The LeddarCore temperature, photodiodes, and laser monitoring feature is available;
- Plug directly on the top of the Renesas V3M Starter Kit ASK-RCAR-V3M-WS10[1] and run the LiDAR Software Demo, or build your own.
- PC demo software (with LeddarSP) included in the package[1]

(1) *Renesas V3M Starter kit can be provided by LeddarTech. PC not included.*

Table 1: Preliminary Specifications

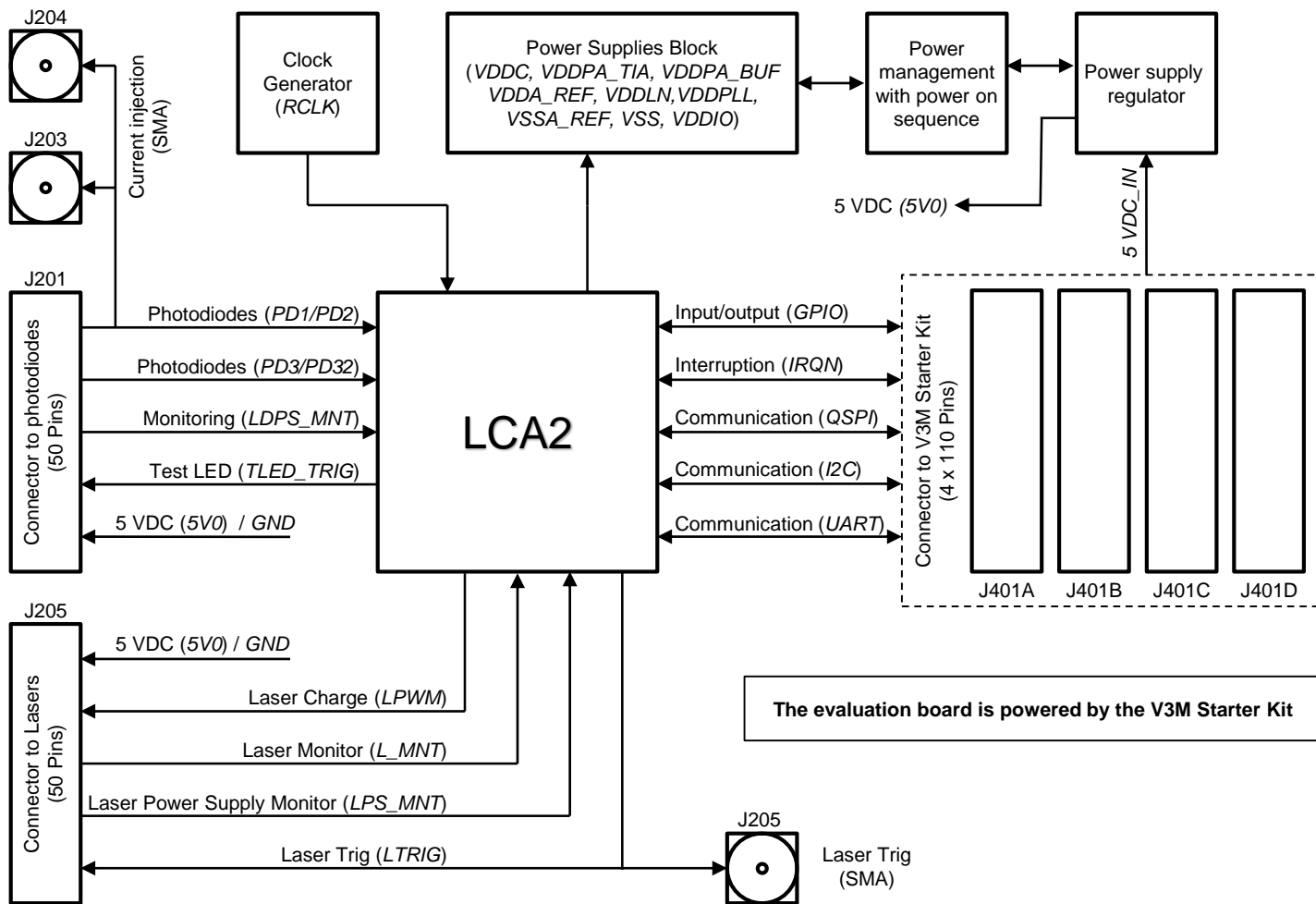| Preliminary Specifications	
System-On-Chip	LCA2 LeddarCore
Driver and Signal Processing Library	LCA2 LeddarSP (included in Firmware)
Demo LiDAR Software	LCA2 Demo (Firmware)
LeddarConfigurator	PC Software (Windows 7 and later)
Compatible Microcontroller Board	Renesas V3M Starter Kit ASK-RCAR-V3M-WS10
Power Input	5 VDC (through V3M Starter Kit)
Power Consumption	5W max
Form Factor	95 mm x 95 mm Equivalent to ComExpress Compact Type 6
Connectors	
Photodiode connector (J201)	50 Pin / Samtec ERF8-025-05.0-L-DV-K-TR
Laser connector (J202)	10 Pin / Samtec ERF8-005-05.0-L-DV-K-TR
Signal injection PD1 and PD2 (J203 & J204)	SMA connector / Molex 0734120110
Laser trigger (J205)	SMA Connector / Molex 0734120110
V3M Starter Kit (J401)	440 Pin COM Express / TE Connectivity 3-1827231-6

Figure 1: Evaluation Board Block Diagram

Table 2: Measurement Points (PAD) on the Evaluation Board

Signal Type	Signal Name	PAD #	Signal Type	Signal Name	PAD #
			Power Supply	3V3D	TP110
Ground (Ground Hooks)	GND	TP101, TP102 TP103	Power Supply	2V5D	TP111
Power Supply	5V0	TP104	Power Supply	3V3LN	TP112
Power Supply	1V5	TP105	Synchronization	SYNC	TP201
Power Supply	2V8	TP106	Power Supply	3V3MCU	TP301
Power Supply	1V2A	TP107	GPIO	GPIO2_04	TP401
Power Supply	2V5A	TP108	GPIO	GPIO2_03	TP402
Power Supply	1V2D	TP109	GPIO	GPIO2_05	TP403

LeddarEngine™ Evaluation Board

Signal Injection connectors (PD1 & PD2)

Photodiode connector

Laser connector

Laser Trigger connector

95 mm

95 mm

TOP VIEW

16 mm

SIDE VIEW

4 mm   4 mm

4 mm

Ø4 mm mounting holes

Connectors to V3M Starter Kit (Com Express - C3N)

4 mm

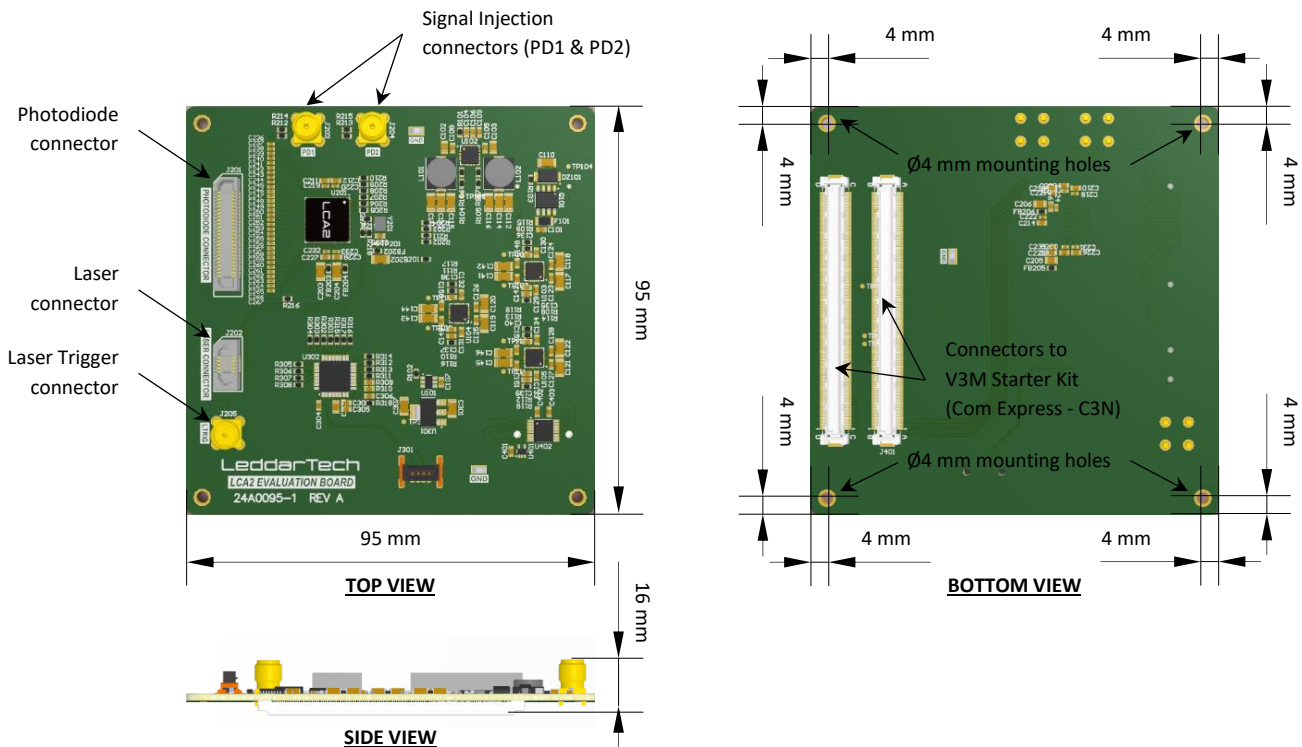Ø4 mm mounting holes

4 mm   4 mm

4 mm

4 mm

BOTTOM VIEW

Figure 2: Dimension, Mounting Holes and Main Connectors

About LeddarTech

LeddarTech is the industry leader behind the most versatile, scalable auto and mobility LiDAR platform based on the unique LeddarEngine. The company is responsible for several innovations in cutting-edge mobility remote-sensing applications, its patented technologies enhancing ADAS/AD capabilities for automobiles, trucks, buses, delivery vehicles, robotaxis and shuttles.

LeddarTech Head Office
4535 Wilfrid-Hamel Blvd., Suite 240
Quebec City (QC),   G1P 2J7
Canada

Phone: 1-418-653-9000
Toll Free: 1-855-865-9900
Fax: 1-418-653-9099

leddartech.com

CANADA
Quebec City
Montreal
Toronto

USA
Detroit
Austin

EUROPE
Linz, Austria
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