



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## Certificate of Accreditation

*Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:*

### ***LUDECA, Inc.***

***1425 NW 88 Avenue, Doral, FL 33172***

*(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:*

### **ISO/IEC 17025:2005 & Meets Requirements of ANSI/NCSL Z540.3-2006**

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

### ***Dimensional, Frequency, and Electrical Calibration*** *(As detailed in the supplement)*

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen  
President/Operations Manager

*Initial Accreditation Date:*

December 29, 2017

*Issue Date:*

October 17, 2019

*Expiration Date:*

October 31, 2021

*Accreditation No.:*

92835

*Certificate No.:*

L19-531

Perry Johnson Laboratory  
Accreditation, Inc. (PJLA)  
755 W. Big Beaver, Suite 1325  
Troy, Michigan 48084

*The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: [www.pjllabs.com](http://www.pjllabs.com)*



# Certificate of Accreditation: Supplement

## LUDECA, Inc.

1425 NW 88 Avenue, Doral, FL 33172  
Contact Name: Armando Martinez Phone: 305-591-8935

Accreditation is granted to the facility to perform the following calibrations:

### Dimensional

| MEASURED INSTRUMENT, QUANTITY OR GAUGE                          | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ ) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED      |
|---|---|--|---|
| Laser Single Beam (Rotalign, RS5, Sensalign, etc) <sup>F</sup>  | Up to 20 mm                                 | 0.000 4 % of Reading + 0.018 mm  | Gage Block, Calibration Plate LUD1015-01                |
| Laser – Dual Beam (Easy-Laser, etc) <sup>F</sup>                | Up to 30 mm                                 | 1.2 % of Reading + 0.003 mm  | Gage Block, Micrometer, Calibration Plate LUDWI-2501-00 |
| Laser – Reflected Beam (Optalign, Masterlign, etc) <sup>F</sup> | Up to 20 mm                                 | 0.000 52 % of Reading + 0.015 mm   | Gage Block, Calibration Plate LUDC1012-00               |
| Inclinometer <sup>F</sup>                                       | 0 ° to 360 °                                | 0.075 % of Reading + 0.043°  | CaliChek F®, Angle Block LUDC1015-01                    |
| Inclineo Test <sup>F</sup>                                      | Up to 10°                                   | 0.004 3°   | Gauge Blocks. Sine Bar LUDC3001-00                      |

### Time & Frequency

| MEASURED INSTRUMENT, QUANTITY OR GAUGE                      | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ ) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED                        |
|---|---|--|---|
| Vibration Test – Accelerometers (Single Point) <sup>F</sup> | 159 Hz                                      | 0.059 % of Reading + 0.025 Hz  | Agilent 34410A, Vibration System shaker, Master Accelerometer LUDC1017-00 |

### Electrical

| MEASURED INSTRUMENT, QUANTITY OR GAUGE                       | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ ) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|--|---|--|--|
| Vibration Analyzer – Simulation (Vibxpert, etc) <sup>F</sup> | 0 V to 30 V                                 | 0.000 005 3 % of Reading + 0.004 2 V   | Agilent 34410A HP 3458A LUDC1019-00                |

- The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor  $k$  (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.



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*Accreditation is granted to the facility to perform the following calibrations:*

2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer<sup>F</sup> would mean that the laboratory performs this calibration at its fixed location.

