

**SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, DC 20549

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**SCHEDULE 13G/A**

**(Rule 13d-102)**

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT  
TO RULES 13d-1(b), (c), AND (d) AND AMENDMENTS THERE TO FILED  
PURSUANT TO RULE 13d-2(b)  
( AMENDMENT 5)

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**KLA-Tencor Corporation**

( NAME OF ISSUER )

**Common Stock, \$0.001 par value per share**

(Title of Class of Securities)

**482480100**

(CUSIP Number)

**December 30, 2016**

(Date of Event Which Requires Filing of this Statement)

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Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

Rule 13d-1 (b)  
 Rule 13d-1 (c)  
 Rule 13d-1 (d)

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1. Names of reporting persons JPMorgan Chase & Co.

I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY) 13-2624428

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2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP\* (a)

(b)

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3. SEC USE ONLY

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4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

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<i>NUMBER OF</i>	5.	SOLE VOTING POWER	7,671,003
<i>SHARES</i>			
<i>BENEFICIALLY</i>	6.	SHARED VOTING POWER	94,156
<i>OWNED BY</i>			
<i>EACH</i>	7.	SOLE DISPOSITIVE POWER	7,954,724
<i>REPORTING</i>			
<i>PERSON WITH</i>	8.	SHARED DISPOSITIVE POWER	118,663

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9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

8,079,210

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10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES

CERTAIN SHARES

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11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

5.1%

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12. TYPE OF REPORTING PERSON\*

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**Item 1(a).**    **Name of Issuer:**

KLA-Tencor Corporation

**Item 1(b).**    **Address of Issuer's Principal Executive Offices:**

One Technology Drive

Milpitas, California 95035

**Item 2(a).**    **Name of Person Filing:**

JPMorgan Chase & Co.

**Item 2(b).**    **Address of Principal Business Office or, if None, Residence:**

270 PARK AVE

NEW YORK, NY 10017

**Item 2(c).**    **Citizenship**

Delaware

**Item 2(d).**    **Title of Class of Securities:**

Common Stock, \$0.001 par value per share

Unless otherwise noted, security being reported is common stock

**Item 2(e).**    **CUSIP Number:**            **482480100**

**Item 3**        **If this Statement is Filed Pursuant to Rule 13d-1(b), or 13d-2(b)**  
**Or (c), Check Whether the Person Filing is a :**

- (a)            Broker or dealer registered under Section 15 of the Exchange Act;
- (b)            Bank as defined in Section 3(a)(6) of the Exchange Act;
- (c)            Insurance company as defined in Section 3(a)(19) of the  
Exchange Act;
- (d)            Investment company registered under Section 8 of the Investment  
Company Act;
- (e)            An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E);
- (f)            An employee benefit plan or endowment fund in accordance with  
Rule 13d-1(b)(1)(ii)(F);
- (g)        X        A parent holding company or control person in accordance with  
Rule 13d-1(b)(1)(ii)(G);
- (h)            A savings association as defined in Section 3(b) of the Federal  
Deposit Insurance Act;
- (i)            A church plan that is excluded from the definition of an

Investment company under Section 3(c)(14) of the Investment  
Company act;

(j) Group, in accordance with Rule 13d-1(b)(1)(ii)(J).

If this statement is filed pursuant to Rule 13d-1(b), check this box.

X

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Page 2 of 3 pages

**Item 4. Ownership**

Provide the following information regarding the aggregate number and Percentage of the class of securities of issuer identified in Item 1.

(a) Amount beneficially owned: 8,079,210

Including 0 shares where there is a Right to Acquire.

(b) Percent of class: 5.1%

(c) Number of shares as to which such person has:

(i) Sole power to vote or to direct the vote:	7,671,003
(ii) Shared power to vote or to direct the vote:	94,156
(iii) Sole power to dispose or to direct the disposition of:	7,954,724
(iv) Shared power to dispose or to direct the disposition of:	118,663

**Item 5. Ownership of Five Percent or Less of a Class. NOT APPLICABLE**

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following. ( )

**Item 6. Ownership of More than Five Percent on Behalf of Another Person.**

JPMorgan Chase & Co. is the beneficial owner of 8,079,210 shares of the issuer's common stock on behalf of other persons known to have one or more of the following:

the right to receive dividends for such securities;

the power to direct the receipt of dividends from such securities;

the right to receive the proceeds from the sale of such securities;

the right to direct the receipt of proceeds from the sale of such securities;

No such person is known to have an interest in more than 5% of the class

of securities reported herein unless such person is identified below.

**Item 7. Identification and Classification of the Subsidiary Which Acquired the Security being reported on by the Parent Holding Company.**

This notice is filed on behalf of JPMorgan Chase & Co. and its wholly owned Subsidiary (ies),

JPMorgan Chase Bank, National Association

J.P. Morgan Investment Management Inc.

JPMorgan Asset Management (UK) Limited

J.P. Morgan International Bank Limited

J.P. Morgan (Suisse) SA

JPMorgan Asset Management (Taiwan) Limited

J.P. Morgan Trust Company of Delaware

J.P. Morgan Securities LLC

**Item 8. Identification and Classification of Members of the Group.**

Not Applicable

**Item 9. Notice of Dissolution of Group.**

Not Applicable

**Item 10. Certifications**

By signing below I certify that, to the best of my knowledge and belief,

the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: January 19, 2017

JPMorgan Chase & Co.

By: /s/ Michael T. Lees

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Michael T. Lees

Compliance

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative (other than an executive officer or general partner of the filing person), evidence of the representative's authority to sign on behalf of such person shall be filed with the statement, provided, however, that a power of attorney for this purpose which is already on file with the commission may be incorporated by reference. The name and any title of each person who signs the the statement shall be typed or printed beneath his signature.

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