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| OMB APPROVAL | |
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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

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|--|---|---|
| 1. Name and Address of Reporting Person* <u>Khan Ahmad A.</u> (Last) (First) (Middle) C/O KLA-TENCOR CORPORATION ONE TECHNOLOGY DRIVE (Street) MILPITAS CA 95035 (City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol KLA TENCOR CORP [KLAC] | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) EVP |
| | 3. Date of Earliest Transaction (Month/Day/Year) 08/31/2017 | |
| 4. If Amendment, Date of Original Filed (Month/Day/Year) | | |

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) | | | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|--|--------------------------------------|--|--------------------------------|---|---|------------|---------|---|--|---|
| | | | Code | V | Amount | (A) or (D) | Price | | | |
| Common Stock - Restricted Stock Units ⁽¹⁾ | 08/31/2017 | | A | | 10,705 ⁽²⁾ | A | \$0 | 70,192 ⁽³⁾ | D | |
| Common Stock - Restricted Stock Units ⁽¹⁾ | 08/31/2017 | | M | | 5,353 ⁽⁴⁾ | D | \$0 | 64,839 ⁽³⁾ | D | |
| Common Stock | 08/31/2017 | | M | | 5,353 ⁽⁴⁾ | A | \$0 | 6,760 | D | |
| Common Stock | 08/31/2017 | | F | | 2,793 ⁽⁵⁾ | D | \$93.69 | 3,967 | D | |
| Common Stock | 09/04/2017 | | M | | 1,778 ⁽⁶⁾ | A | \$0 | 5,745 | D | |
| Common Stock | 09/04/2017 | | F | | 928 ⁽⁷⁾ | D | \$94.08 | 4,817 | D | |
| Common Stock | 09/04/2017 | | M | | 4,445 ⁽⁸⁾ | A | \$0 | 9,262 | D | |
| Common Stock | 09/04/2017 | | F | | 2,320 ⁽⁷⁾ | D | \$94.08 | 6,942 | D | |
| Common Stock - Restricted Stock Units ⁽¹⁾ | | | | | | | | 58,616 ⁽⁹⁾ | D | |

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
|--|--|--------------------------------------|--|--------------------------------|---|--|-----|--|-----------------|---|--|--|---|--|
| | | | | Code | V | (A) | (D) | Date Exercisable | Expiration Date | | | | | |

Explanation of Responses:

- Each restricted stock unit ("RSU") represents a contingent right to receive one share of KLA-Tencor common stock.
- On August 7, 2014, in addition to the RSUs granted on that date that were subject only to service-vesting requirements (which RSUs were previously reported on Form 4), the Reporting Person was also granted RSUs covering up to a maximum of 11,437 shares (based on 125% of the target shares of 9,150) of KLA-Tencor common stock, subject to both performance-vesting and service-vesting requirements. On August 31, 2017 the Compensation Committee of KLA-Tencor's Board of Directors determined the level at which the corporate performance goals were attained and, based on the assessment, determined that the number of shares subject to the RSUs is 10,705.
- Does not include performance-based RSUs, if any, held by the Reporting Person for which an assessment has not yet been made regarding the achievement of the applicable performance goals. Any such holdings will be reported on a Form 4 within two business days of the date such assessment is made.
- The Reporting Person vested fifty percent (50%) of the performance-based RSUs upon the date on which the Compensation Committee of KLA-Tencor's Board of Directors determined the level at which the underlying performance goals were attained (August 31, 2017) and will vest in the remaining fifty percent (50%) upon his completion of four years of service following the grant date of the award (August 7, 2014). The shares of common stock will be issued as the performance-based RSUs vest.

5. Pursuant to the terms of the grant, shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding. The fair market value of KLA-Tencor common stock used for purposes of calculating the number of shares to be withheld was the closing price of KLA-Tencor common stock as reported on August 31, 2017.

6. On September 4, 2013, the Reporting Person received a grant of restricted stock units ("RSUs") covering 7,112 shares of KLA-Tencor common stock. On September 4, 2017, the Reporting Person vested in twenty-five percent (25%) of such RSUs.

7. Pursuant to the terms of the grant, shares of KLA-Tencor common stock were automatically withheld at vesting to cover required tax withholding. The fair market value of KLA-Tencor common stock used for purposes of calculating the number of shares to be withheld was the closing price of KLA-Tencor common stock as reported on September 1, 2017.

8. On September 4, 2013, the Reporting Person received a grant of performance-based RSUs that, following the completion of fiscal year 2016, was determined by the Compensation Committee of KLA-Tencor's Board of directors (on September 7, 2016) to cover 8,891 shares of KLA-Tencor common stock. On September 4, 2017, the Reporting Person vested in fifty percent (50%) of such performance-based RSUs.

9. Does not include performance-based RSUs, if any, held by the Reporting Person for which an assessment has not yet been made regarding the achievement of the applicable performance goals. Any such holdings will be reported on a Form 4 within two business days of the date such assessment is made. Reflects the transactions in footnotes (6) and (8) above.

Remarks:

Teri Little as Attorney-in-Fact 09/05/2017
for Ahmad A. Khan

** Signature of Reporting Person Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

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