

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

**SCHEDULE TO
(RULE 14D-100)**

**Tender Offer Statement Pursuant to Section 14(d)(1) or 13(e)(1)
of the Securities Exchange Act of 1934**

APPLIED MICRO CIRCUITS CORPORATION

(Names of Subject Company)

MONTANA MERGER SUB I, INC.

(Purchaser)

MACOM TECHNOLOGY SOLUTIONS HOLDINGS, INC.

(Parent of Purchaser)

(Names of Filing Persons)

COMMON STOCK, \$0.01 PAR VALUE

(Title of Class of Securities)

03822W406

(CUSIP Number of Class of Securities)

**John Croteau President and Chief Executive Officer MACOM Technology Solutions Holdings, Inc. 100 Chelmsford Street
Lowell, MA 01851**

(978) 656-2500 (Name, address and telephone number of person authorized to receive notices and communications on behalf of filing persons)

with copies to:

Clay Simpson
Vice President, General Counsel &
Secretary
MACOM Technology Solutions
Holdings, Inc.
100 Chelmsford Street
Lowell, Massachusetts 01851
(978) 656-2500

Marko Zatylny
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800 Boylston Street
Boston, Massachusetts 02199
(617) 951-7000

L. William Caraccio
Vice President,
General Counsel & Secretary
Applied Micro Circuits Corporation
4555 Great America Parkway, 6th Floor
Santa Clara, California 95054
(408) 542-8600

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LLP
2550 Hanover Street
Palo Alto, California
94304
(650) 233-4500

CALCULATION OF FILING FEE

Transaction Valuation*	Amount of Filing Fee**
\$789,182,975.75	\$91,466.31

* Estimated solely for the purpose of calculating the registration fee pursuant to Rule 0-11 of the Securities Exchange Act of 1934, as amended, based on the product of (i) \$8.45, the average of the high and low sales prices per share of Applied Micro Circuits Corporation ("AppliedMicro") common stock on December 14, 2016, as reported by Nasdaq, and (ii) 93,394,435, the estimated number of shares of AppliedMicro common stock to be exchanged in the transaction.

** The amount of the filing fee, calculated in accordance with Rule 0-11 under the Securities Exchange Act of 1934, as amended, equals 0.0001159 multiplied by the estimated transaction valuation.

Check the box if any part of the fee is offset as provided by Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

Amount Previously Paid: \$57,847.46
Form or Registration No.: Form S-4

Filing Party: MACOM Technology Solutions Holdings, Inc.
Date Filed: December 21, 2016

Check the box if the filing relates solely to preliminary communications made before the commencement of a tender offer.

Check the appropriate boxes below to designate any transactions to which the statement relates:

- third-party tender offer subject to Rule 14d-1.
 issuer tender offer subject to Rule 13e-4.
 going-private transaction subject to Rule 13e-3.
 amendment to Schedule 13D under Rule 13d-2.

Check the following box if the filing is a final amendment reporting the results of the tender offer:

This Tender Offer Statement on Schedule TO is filed by MACOM Technology Solutions Holdings, Inc. (“MACOM”), a Delaware corporation, and Montana Merger Sub I, Inc. (the “Purchaser”), a Delaware corporation and a direct wholly owned subsidiary of MACOM. This Schedule TO relates to the offer by the Purchaser to exchange for each outstanding share of common stock, \$0.01 par value per share, of Applied Micro Circuits Corporation (“AppliedMicro”), a Delaware corporation, (a) \$3.25 in cash and (b) 0.1089 shares of MACOM common stock, par value \$0.001 per share, plus cash in lieu of any fractional shares of MACOM common stock, in each case without interest (together, the “transaction consideration”) (collectively, subject to the terms and conditions set forth in the Prospectus/Offer and the related Letter of Transmittal, and together with any amendments or supplements thereto, the “Offer”).

MACOM filed with the U.S. Securities and Exchange Commission (the “SEC”) a Registration Statement on Form S-4 on December 21, 2016, relating to the offer and sale of shares of MACOM common stock to be issued to holders of shares of AppliedMicro common stock validly tendered in the Offer and not properly withdrawn (the “Registration Statement”). The terms and conditions of the Offer are set forth in the Prospectus/Offer, which is a part of the Registration Statement and filed as Exhibit (a)(4) hereto (the “Prospectus/Offer”), and the related Letter of Transmittal, which is filed as Exhibit (a)(1)(A) hereto (the “Letter of Transmittal”). Pursuant to General Instruction F to Schedule TO, the information contained in the Prospectus/Offer and the Letter of Transmittal, including any prospectus supplement or other supplement thereto related to the Offer hereafter filed with the SEC by MACOM or the Purchaser, is hereby expressly incorporated into this Schedule TO by reference in response to items 1 through 11 of this Schedule TO and is supplemented by the information specifically provided for in this Schedule TO.

Item 1. Summary Term Sheet.

The information set forth in the sections of the Prospectus/Offer entitled “*Summary*” and “*Questions and Answers About The Offer*” is incorporated into this Schedule TO by reference.

Item 2. Subject Company Information.

(a) The subject company of the Offer is Applied Micro Circuits Corporation, a Delaware corporation. The address and telephone number of AppliedMicro’s principal executive office is 4555 Great America Parkway, Suite 601, Santa Clara, CA 95054, (408) 542-8600.

(b) As of December 15, 2016, there were 87,641,177 shares of AppliedMicro common stock, \$0.01 par value per share, issued and outstanding.

(c) The information set forth in the sections of the Prospectus/Offer entitled “*Comparative Market Price and Dividend Matters*” is incorporated into this Schedule TO by reference.

Item 3. Identity and Background of Filing Person.

The information set forth in the sections of the Prospectus/Offer entitled “*The Companies - MACOM*” and “*The Companies - The Purchaser*” and Annex E of the Prospectus/Offer entitled “*Directors and Executive Officers of MACOM and the Purchaser*” is incorporated into this Schedule TO by reference.

Item 4. Terms of the Transaction.

The information set forth in the Prospectus/Offer is incorporated into this Schedule TO by reference, including the sections of the Prospectus/Offer entitled “*The Transactions*” (including “*The Transactions - Accounting Treatment*”), “*Exchange Offer Procedures*,” “*Merger Agreement*,” “*Support Agreements*,” “*Material U.S. Federal Income Tax Consequences*” and “*Comparison of Stockholders’ Rights*,” as well as Annex A, Annex B, Annex C and Annex D of the Prospectus/Offer, and the information set forth in the Letter of Transmittal is incorporated into this Schedule TO by reference, including the section of the Letter of Transmittal entitled “*Instructions Forming Part of the Terms and Conditions of the Offer*.”

Item 5. Past Contacts, Transactions, Negotiations and Agreements.

The information set forth in the sections of the Prospectus/Offer entitled “*The Companies*,” “*The Transactions - Background of the Transactions*,” “*The Transactions - MACOM’s Reasons for the Transactions*,” “*The Transactions - AppliedMicro’s Reasons for the Transactions; Recommendation of AppliedMicro’s Board of Directors*,” “*The Transactions - Interests of Certain Persons in the Transaction*,” “*The Transactions - Certain Relationships with AppliedMicro*,” “*Merger Agreement*” and “*Support Agreements*” is incorporated into this Schedule TO by reference.

Item 6. Purposes of the Transaction and Plans or Proposals.

The information set forth in the sections of the Prospectus/Offer entitled “*Questions and Answers About the Offer - Why is MACOM proposing the offer and the mergers?*,” “*The Transactions—Background of the Transactions*,” “*The Transactions - MACOM’s Reasons for the Transactions*,” “*The Transactions - Plans for AppliedMicro*,” and “*Merger Agreement*” is incorporated into this Schedule TO by reference.

Item 7. Source and Amount of Funds or Other Consideration.

The information set forth in the section of the Prospectus/Offer entitled “*The Transactions - Source and Amount of Funds*” is incorporated into this Schedule TO by reference.

Item 8. Interest in Securities of the Subject Company.

The information set forth in the sections of the Prospectus/Offer entitled “*The Transactions - Certain Relationships with AppliedMicro*” and “*Support Agreements*” is incorporated into this Schedule TO by reference.

Item 9. Persons/Assets Retained, Employed, Compensated or Used.

(a) The information set forth in the section of the Prospectus/Offer entitled “*Exchange Offer Procedures - Fees and Commissions*” is incorporated into this Schedule TO by reference.

Item 10. Financial Statements.

The information set forth in the sections of the Prospectus/Offer entitled “*Selected Historical Consolidated Financial Data of MACOM*,” “*Selected Historical Consolidated Financial Data of AppliedMicro*,” “*Selected Unaudited Pro Forma Condensed Combined Financial Data*,” “*Comparative Historical and Unaudited Pro Forma Per Share Data*” and “*Where to Obtain Additional Information*” is incorporated into this Schedule TO by reference.

Item 11. Additional Information.

The information set forth in the Prospectus/Offer and the Letter of Transmittal is incorporated into this Schedule TO by reference.

Item 12. Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
(a)(1)(A)	Letter of Transmittal (incorporated by reference to Exhibit 99.4 to MACOM Technology Solutions Holdings, Inc.’s Registration Statement on Form S-4 filed on December 21, 2016)
(a)(1)(B)	Letter to Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees (incorporated by reference to Exhibit 99.5 to MACOM Technology Solutions Holdings, Inc.’s Registration Statement on Form S-4 filed on December 21, 2016)

<u>Exhibit No.</u>	<u>Description</u>
(a)(1)(C)	Form of Letter to Clients for Use by Brokers, Dealers, Commercial Banks, Trust Companies and Other Nominees (incorporated by reference to Exhibit 99.6 to MACOM Technology Solutions Holdings, Inc.'s Registration Statement on Form S-4 filed on December 21, 2016)
(a)(4)	Prospectus/Offer (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s Registration Statement on Form S-4 filed on December 21, 2016)
(a)(5)(A)	Press Release issued by MACOM Technology Solutions Holdings, Inc. dated November 21, 2016, announcing execution of Agreement and Plan of Merger and Reorganization (incorporated by reference to Exhibit 99.2 to Form 8-K filed by MACOM Technology Solutions Holdings, Inc. on November 21, 2016)
(a)(5)(B)	Slide presentation entitled "MACOM Announces Definitive Agreement to Acquire AppliedMicro" (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on November 21, 2016)
(a)(5)(C)	Transcript of conference call (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on November 21, 2016)
(a)(5)(D)	Press release regarding upcoming town hall (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on November 29, 2016)
(a)(5)(E)	Slide Presentation entitled "Accelerating and Broadening Breakout Growth in Cloud Data Centers" (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on November 30, 2016)
(a)(5)(F)	Transcript of presentation from investor day (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on December 1, 2016)
(a)(5)(G)	Slide presentation entitled "MACOM Technology Solutions Holdings (MTSI)" (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on December 5, 2016)
(a)(5)(H)	Applied Micro Employee Q&A's Regarding Announced MACOM Acquisition (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on December 6, 2016)
(a)(5)(I)	Press release regarding early termination of antitrust review (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on December 13, 2016)
(a)(5)(J)	Email from John Croteau to employees of Applied Micro Circuits Corporation (incorporated by reference to MACOM Technology Solutions Holdings, Inc.'s filing pursuant to Rule 425 on December 14, 2016)
(d)(1)	Agreement and Plan of Merger and Reorganization, dated as of November 21, 2016, by and among MACOM Technology Solutions Holdings, Inc., Montana Merger Sub I, Inc., Montana Merger Sub II, LLC and Applied Micro Circuits Corporation (incorporated by reference to Exhibit 2.1 to the Form 8-K filed by MACOM Technology Solutions Holdings, Inc. on November 21, 2016)
(d)(2)	Form of Support Agreement (incorporated by reference to Exhibit 99.1 to the Form 8-K filed by MACOM Technology Solutions Holdings, Inc. on November 21, 2016)

Item 13. Information Required by Schedule 13E-3.

Not applicable.

SIGNATURES

After due inquiry and to the best of the undersigned's knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Dated: December 21, 2016

MONTANA MERGER SUB I, INC.

By: /s/ John Croteau

Name: John Croteau

Title: President and Chief Executive Officer

**MACOM TECHNOLOGY SOLUTIONS HOLDINGS,
INC.**

By: /s/ John Croteau

Name: John Croteau

Title: President and Chief Executive Officer

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