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MTSI - Q1 2019 MACOM Technology Solutions Holdings Inc Earnings Call

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#### PRESENTATION

#### Operator

Good afternoon, and welcome to MACOM's Fiscal First Quarter 2019 Financial Results Conference Call. (Operator Instructions) As a reminder, this conference call is being recorded today, Tuesday, February 5, 2019. I will now turn the call to Steve Ferranti, Vice President of Investor Relations at MACOM. Steve, please go ahead.

#### Stephen Ferranti - MACOM Technology Solutions Holdings, Inc. - VP of IR

Thanks, Josie. Good afternoon, everyone, and welcome to MACOM's First Fiscal Quarter 2019 Earnings Conference Call. Joining me today are MACOM's President and Chief Executive Officer, John Croteau; and Senior Vice President and Chief Financial Officer, Bob McMullan.

If you have not yet received a copy of the earnings press release, you can obtain a copy on MACOM's website at www.macom.com under the Investor Relations section.

Before I turn the call over to John, I'd like to remind everyone that management's prepared remarks and answers to your questions contain forward-looking statements, which are subject to certain risks and uncertainties. Because actual results may differ materially from those discussed today, MACOM claims the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

For more detailed discussion of the risks and uncertainties that could result in those differences, we refer you to MACOM's filings with the SEC, including its current report on Form 8-K filed today and its annual report on Form 10-K for the fiscal year 2018 filed on November 16, 2018. Any forward-looking statements represent management's views only as of today, February 5, 2019, and MACOM assumes no obligation to update these statements in the future.

The company's press release and management statements during this conference call include discussions of certain adjusted non-GAAP measures and financial information, including all income statement amounts and percentages referred to on today's call, unless otherwise noted. These financial measures and a reconciliation of the GAAP to adjusted non-GAAP results are provided in the company's press release in the related Form 8-K, which was filed with the SEC today and can be found on the Investor Relations section of MACOM's website.



For those of you unable to listen to the entire call at this time, a recording will be available via webcast for at least 30 days in the Investor Relations section of MACOM's website.

And with that, I'll turn over the call to John for his comments on the quarter.

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Thanks, Steve. Welcome, everyone, and thanks for joining us today. I'll begin today's call with an overview of our first quarter results for fiscal 2019. I'll then turn the call over to Bob McMullan, our CFO, who will review our financial performance in further detail. I'll conclude today's [prepared comments] by discussing key end-quarter milestones related to our secular growth drivers and close the call with guidance for the second fiscal quarter of 2019.

Jumping right into the numbers. Revenue for the fiscal first quarter was \$151 million, roughly flat sequentially. Adjusted gross margin was 56%, and adjusted earnings per share was \$0.20, at the midpoint of our guidance range. All in all, this was a solid quarterly performance in the face of a challenging macro environment. I'd like to thank the entire MACOM team for their efforts during the quarter.

Before turning it over to Bob to review our Q1 financial results in more detail, I'd like to provide a few comments on the current market. Like everyone else, we're currently navigating through several macroeconomic and trade-related cross-currents. In spite of this, we believe that the second half of calendar 2019 will improve, underpinned by the onset of some major infrastructure build-outs, most notably in 5G. Based upon conversations with our client customers, there is clearly some inventory digestion underway in the data center supply chain.

Seasonally speaking, the early part of the year normally tends to have lower visibility as orders slow going into Chinese New Year. This year, trade tensions and recent geopolitical events have exacerbated the situation. In the data center optical module supply chain, which has traditionally had a heavy manufacturing presence in China, uncertainty around tariffs and trade restrictions has disrupted order patterns. Cloud customers' orders have slowed as they burn off inventory and reassess their long-term manufacturing footprint. Some of the smaller module makers look to be exiting the space entirely.

Additionally, in the industrial markets, we've started seeing sluggishness consistent with the macro slowdown that our larger analog peers have been reporting. The net result is that after 4 consecutive quarters of 8%-plus sequential growth in our I&D business, we're anticipating a down quarter in fiscal Q2. These factors are all reflected in our Q2 guidance.

To be clear, we view all of these issues as short term and temporary in nature. Despite geopolitical and trade-related headwinds, end market demand looks healthy for the year as a whole, with 5G in particular expected to drive a rebound as we get into the latter part of the year. I'll talk more about this later in the call.

At this point, I'd like to turn it over to Bob for a more in-depth review of our fiscal first quarter financials.

#### Robert J. McMullan - MACOM Technology Solutions Holdings, Inc. - Senior VP & CFO

Thank you, John. Good afternoon, everyone. Fiscal Q1 continued the trend of improving results for MACOM overall. Adjusted EBITDA increased to \$30 million, up 13% sequentially and 41% year-over-year.

GAAP cash flow from operations was positive \$3 million, reduced by an increase in working capital of \$14 million. This increase was due to seasonal impact of many of our calendar year-end customers, which extended the timing of payments of accounts receivable. Capital expenditures were \$12 million. Thus, MACOM generated negative free cash flow of \$9 million as MACOM continues to invest to meet the demand and capacity requirements of emerging opportunities and the negative timing effect of increased working capital. Total cash, cash equivalents and short-term investments decreased by \$7 million sequentially and totaled \$186 million.



Revenue in fiscal Q1 was \$151 million, up 15% year-over-year from \$131 million and flat sequentially. Excluding \$12 million of LR4 revenue in fiscal Q1 2018, revenues grew 26% year-over-year. MACOM has one more quarter comparison with the LR4 business.

Revenues by end market. Telecom was \$50 million and 33% of total revenue, down 10% year-over-year and down 5% sequentially. Excluding the LR4 revenue, telecom grew 15% year-over-year. Data Center was \$43 million and 29% of total revenue, up 24% year-over-year, down 6% sequentially. Industrial & Defense was \$57 million and 38% of total revenues, up 41% year-over-year, up 9% sequentially. To note, this was the first fiscal quarter in which Industrial & Defense was MACOM's largest end market.

Adjusted gross profit and gross margin in fiscal Q1 was \$85 million and 56% of revenue, respectively, compared to \$70 million and 54% of revenue, respectively, year-over-year and \$83 million and 55%, respectively, on a sequential basis.

Operating expenses. Total adjusted operating expenses were \$63 million compared to \$57 million year-over-year and \$64 million sequentially. Adjusted operating expenses were down approximately \$1 million or 2% sequentially. Variable material expenses were lower in fiscal Q1 versus fiscal Q4. Adjusted R&D and SG&A expenses were \$40 million and \$23 million, respectively, in fiscal Q1.

Adjusted income from operations and operating margin were \$22 million and 15% of revenues, respectively, up 63% in dollars and up 41% on a percentage basis year-over-year and up 17% in dollars and up 18% on a percentage basis sequentially.

Net interest expense was up \$700,000 sequentially to \$8 million, primarily due to capital leases associated with MACOM's Lowell facility.

Our normalized adjusted income tax rate in fiscal Q1 continued at 8%. Our GAAP effective tax rate was 5% for fiscal Q1. As to cash taxes, we had net cash payments of less than \$100,000. During fiscal Q1, MACOM filed amended tax returns that will result in \$7 million of tax refunds to be received in fiscal 2019. Additionally, the final calculation of the impact of the new tax law on past foreign profits taxable in 2019 is 0 as our NOLs offset calculated tax.

Our fiscal Q1 adjusted net income and EPS were \$13 million and \$0.20 per fully diluted share, respectively, up from \$7 million and \$0.10 year-over-year and up fiscal Q4 adjusted net income of \$11 million and EPS of \$0.16. Adjusted net income increased 94% year-over-year and 23% sequentially. Adjusted EPS was up 100% year-over-year and up 25%, respectively, also on a sequential basis. The share count used to calculate fiscal Q1 adjusted EPS was 65.6 million fully diluted shares.

As previously noted, adjusted EBITDA, or earnings before interest taxes, depreciation and amortization, was \$30 million, up 41% from \$21 million year-over-year and up 13% from \$26 million sequentially.

Moving to cash flow. As I mentioned, GAAP cash flow from operations was \$3 million in fiscal Q1 compared to \$500,000 year-over-year and \$25 million in Q4. Contrary to Q4, improved operating income was offset by increased working capital of \$14 million. This is a fiscal Q1 issue for MACOM as a majority of customers and vendors are calendar year companies that delay payments on accounts receivable, and MACOM pays down accounts payable during the same period. After deducting capital expenditures, free cash flow was negative \$9 million, down from positive \$11 million sequentially due to the increase in working capital.

Capital expenditures in fiscal Q1 was \$12 million or 8% of revenues, and depreciation expense was \$8 million.

MACOM balance sheet numbers. As I said, MACOM's cash, cash equivalents and short-term investments were \$186 million, down from \$193 million sequentially. Accounts receivable were \$110 million, up from \$97 million sequentially. Days sales outstanding were 66 days, up from 59 days sequentially. Inventories were \$121 million, down \$2 million sequentially. Inventory turns were flat at 2.2x. Days of inventory were 167 days compared to 163 days sequentially.

Long-term debt was \$689 million, inclusive of capital leases. Long-term debt of \$659 million was termed with minimum annual principal payments until maturity of May 2024 and covenant life. MACOM has an undrawn \$160 million credit line available through November of 2021.



Back to you, John.

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Thanks, Bob. Now I'll provide an update on our secular growth drivers, starting with cloud data centers.

We share the view that demand should recover in the second half of 2019. Our cloud customers have said they expect to burn off inventories within the next quarter or so. The current macroeconomic slowdown and inventory digestion does not change the fundamental need for high-speed connectivity in data centers. Cloud operators' greatest strengths and growth strategies depend on ultra high-speed links between server racks and across their data centers.

We're still in the early innings of the transition to 100-gig and ultimately higher data rates inside the data center. Customers' forecast for 2019 and 2020 bear this out, predicting strong growth in the years ahead for 100-gig CWDM4 and PAM4 in spite of the slow start this year.

We continue to make solid progress in commercializing our 25-gig lasers. Customer response to our current generation of products has been very positive, and we're in the various stages of qualification across multiple customers. We're now actively negotiating share allocations for 2019.

Similarly, we continue to make solid progress commercializing our PAM4 and L-PIC investments as we work with customers and suppliers to scale these into high-volume production. We expect each of these new product lines to incrementally contribute to revenue growth this year, independent of the current trade or inventory dynamics in data centers.

Finally, I'd like to note that all of these opportunities are additive to our current Data Center business so that as the market normalizes, we're well positioned to accelerate growth. It's only an issue of ramp rate and timing.

Next, to global and homeland defense. Over the last 90 days, we've seen tremendous progress in the SENSR program as it moves closer toward fruition. You may have seen in the news that unauthorized drone incursions at London Gatwick and more recently Newark airport have caused massive disruptions to air travel at tremendous economic costs. A newfound urgency to address vulnerabilities has driven a surge in interest for our radar tile technology from a wide variety of customers. Vulnerabilities in airport security are one of the key underlying drivers of the sensor program as well as a host of other civil and public safety applications for drone protection near open air venues as well as public facilities.

The SENSR Joint Program Office will be hosting another Industry Day for vendors following October's RFI responses from major prime contractors, which featured MACOM's radar tiles prominently. While SENSR field deployment is still a couple of years out, final bids are expected to require full-scale preproduction builds, which we are ready to support in engineering and in manufacturing in the second half of 2019 and 2020.

Likewise, private security radar installations may begin in earnest well ahead of SENSR in the field. After years of investment and development work, we're in the right place at the right time with a novel approach to provide unique system functionality. The world's leading radar customers and U.S. government agencies understand the value we're bringing to bear with scalable planar arrays better than anyone and are teaming with MACOM for precisely that reason. We view this global and homeland defense opportunity to be a strong domestic secular growth engine starting in 2019 and continuing for, arguably, decades to come.

Finally, that brings me to 5G Telecom. Since we last updated you on the November earnings call, it's become clear that the tide has turned in global telecom infrastructure spending. After service providers paused capital spending last year, they're now entering what we expect to be a strong 5-year cycle of global infrastructure investment in 5G. Services being are launched. Tenders are being awarded. Orders are materializing, and customers' short and long-range forecasts are now consistently exceeding our expectations.

For telecom, it's déjà vu all over again. This is exactly the type of customer behavior I saw in the early stages of the 4G and 3G ramps 5 and 10 years ago. 5G is real, and it's happening this year on a global basis in applications ranging from sub-6 gigahertz microcell base stations to millimeter wave fixed wireless mesh networks to the optical backbone and tie it all together. I'm really looking forward to Mobile World Congress in a few weeks. It's been a few years since there's been this amount of anticipation before the show.



Without a doubt, our time has come to realize our GaN on Silicon ambitions this year in 5G. Major base station OEMs understand they need wideband GaN performance with transformational cost structures and manufacturing capacity that we believe can only be supplied by a GaN on Silicon supply chain. Up until now, only LDMOS can meet requisite scale and cost structure, but GaN is needed for efficiency and gains to meet 5G range antenna range and energy efficiency in the field. MACOM GaN on Silicon uniquely provides it all: performance, costs and high-volume supply chain.

With the Infineon litigation now settled and MACOM's definitive ownership of the fundamental patents now in place, we've dramatically accelerated our operational plans with both customers and supply partners alike. Supply chain activity over the past 90 days has been virtually nonstop with our ultimate goal of ensuring capacities in place to achieve brand and preeminent share in a market that's expected to triple with 5G starting this year in 2019.

Less well understood is that GaN is only half of the equation for MACOM. We have a similar size of opportunity for AlGaAs and HMIC switches and varactors on the receive side of 5G. We've held a preeminent position for decades in markets like radars, sat comm and electronic warfare with these highly proprietary compound semi technologies. With the advent of 5G active antenna arrays and frequency bands from 2.6 to 39 gigahertz millimeter wave spectrum, AlGaAs and HMICs are now poised to play a pivotal role in 5G infrastructure. They offer the industry's lowest insertion loss, providing superior reception for microcell base stations and fixed wireless access points.

We're in a position to help base station OEMs differentiate antenna performance in terms of coverage, link budget and energy efficiency, all key figures of merit to wireless carriers. Our portfolio of highly proprietary RF technologies can unlock major economic value in 5G antennas for OEMs and carriers alike in both sub-6 gigahertz mobile as well as fixed millimeter wave networks globally.

This is all upside to our current business. MACOM has traditionally been a minor player in base station selling low-volume catalog products. All that changes in 5G. Design wins are already in place supporting major 5G network launches at some of the major carriers globally. We look forward to providing more detail and delivering on our vision in the months and quarters ahead.

Last but not least, 5G comes with a significant deployment of fiber infrastructure not just in coherent Metro and backhaul networks but in NRZ, CWDM4 and PAM4, fronthaul and mid-haul links connecting the base stations to the fiber core. To be clear, the technology leadership we've established from cloud data centers extend directly to 5G, not just GaN and AlGaAs but indium phosphide lasers, drivers, TIAs, CDRs, L-PICs, PAM-4 PHYs, all of them.

Two quarters ago, we reported orders for initial deployments of 5G-coherent optical networks, which we fulfilled as revenue last quarter. In fact, overall Metro/Long-haul is one of the bright spots within the current demand picture. We're seeing a healthy ramp in orders for our 32 and 64GBaud coherent drivers and TIAs to the point where order intake and customer forecasts are now consistently exceeding expectations. Overall, given the breadth and depth of opportunities we have in 5G networks from GaN, AlGaAs and indium phosphide compound semis to our coherent NRZ and PAM4 optical networking and active antenna technologies, you can understand why we're so excited that the global cycle of 5G telecom deployment is upon us.

To conclude, with today's macroeconomic backdrop of sluggish industrial and data center demand, tariffs, trade tensions, we're fortunate to be levered in multiple large and diverse growth opportunities underpinned by planned infrastructure build-outs that should help to provide catalysts for demand recovery in the latter half of 2019. We're approaching a crossover point where these secular growth opportunities can overshadow lingering trade-related disruptions.

That brings me to guidance. As in previous quarters, we're taking it one quarter at a time, guiding based on customer backlog, order visibility and our ability to fulfill that demand. For the fiscal second quarter ending March 29, 2019, we expect revenue to be in the range of \$134 million to \$142 million. Adjusted gross margin is expected to be between 55% and 57% and adjusted earnings per share between \$0.04 and \$0.12 on an anticipated 66 million fully diluted shares outstanding.

Our fiscal Q2 guide clearly reflects a confluence of a number of unfortunate developments impacting all 3 of our end markets and all geographies. We consider these to be short term and temporary in nature. At the same time, we're faced with a number of variable investments this quarter that we plan to follow through in support of critical customers and program ramps for the second half of the year.



We've never been more optimistic about MACOM's growth prospects. We're uniquely positioned with a portfolio of disruptive technologies that are protected by strong and proven intellectual property. It's for this reason that we're a partner of choice with leading cloud service providers, telecom and networking equipment OEMs and major Defense Primes. This is a year of operational execution for MACOM in scaling our new products and technologies, servicing strong, secular demand in our growth markets. I look forward to updating you on the coming weeks and months on the great progress we're making in scaling production internally and with our manufacturing partners.

Operator, you can now open the call to questions.

#### QUESTIONS AND ANSWERS

#### Operator

(Operator Instructions) Our first question comes from the line of Quinn Bolton with Needham & Company.

#### Quinn Bolton - Needham & Company, LLC, Research Division - Senior Analyst

Understand it's kind of a challenging first half of the calendar year. You went through a number of drivers for the second half, including the datacom recovery, the launch of 5G both for optical backhaul as well as the GaN on Silicon. Just kind of wondering, as you look at those various opportunities, does one outshine the others? Or do they all sort of contribute pretty nicely? Just trying to think about what the biggest driver in the second half recovery could be.

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

That's a tough question to answer, Quinn. As much as the tide pulled out on us in the next --- in the front half of the year, I think it's all going to be coming back in the back half. One of the things that is now crystal clear is 5G across multiple parts of our portfolio is happening in a big way. In fact, I'll give you an example. In our Telecom business, the one big bright spot is Metro/Long-haul portfolio grew 7% sequential and looks like close to 20% the next quarter. Those were all initial 5G deployments. So 5G is going to be happening. Data center, we talked to the cloud guys. They're talking about burning off inventory within this quarter or next. So that should be coming back and looking like growth. And the industrial stuff is in a similar state. We're starting out at 4 quarters of 8% plus sequential growth. It looks like we got kind of a pause here in the third quarter, and that will be coming back. I think we did 40% growth in I&D last quarter year-on-year. So I think the second half of the year is actually going to be quite nice.

#### Quinn Bolton - Needham & Company, LLC, Research Division - Senior Analyst

Got it. And then just, Bob, you mentioned some expenses here in the first calendar quarter in support of programs launching in the second half of the calendar year. Should we think about OpEx maybe being in the near-term peak in margins to support the development of those programs and then as you get closer to launching those, those expenses tail off?

#### Robert J. McMullan - MACOM Technology Solutions Holdings, Inc. - Senior VP & CFO

Exactly, Quinn, we have some major tape-outs that are happening in our fiscal Q2. Now we forecasted those to hit our P&L in Q2. They could push. That would lower that, but the concept is right. This would be the peak of expenses.

#### Operator

And our next question comes from the line of Tim Savageaux with Northland.

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#### Timothy Paul Savageaux - Northland Capital Markets, Research Division - MD & Senior Research Analyst

I wanted to follow up on that Metro/Long-haul comment and kind of drill down a bit because that certainly is consistent with what we've been seeing across the rest of the ecosystem. In terms of the strengths, looking at your -- you did decline sequentially in telecom. Do we assume that PON or other markets were a driver there? And what sort of outlook would you have for the -- I think you just said Metro/Long-haul up 20% sequentially next quarter. I want to make sure I heard that right. And how do those dynamics work in terms of overall segment guidance for the March quarter?

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Yes. As you know, Tim, we don't guide by segment. But I can give you a bit of color. The way I'd describe it is we just had further and further deteriorating visibility as the quarter proceeded. We had very low visibility right now. So it's hard to predict. It's the reason why we opened up our guidance range as well. And you're right, Metro/Long-haul being up, the other parts of telecom portfolio like PON, but some of the other telecom things that get classified as telecom also showed weakness. I would say normally going into Chinese New Year, visibility is low. It's exceptionally low right now, and a lot of that exposure is, frankly, China. So it's just hard to call, to be honest. The next quarter, it's hard to call. I think we have to see how a lot of geopolitical issues and trade and tariffs play out. Until that happens, it's going to -- I just don't -- I don't anticipate improving visibility.

#### Timothy Paul Savageaux - Northland Capital Markets, Research Division - MD & Senior Research Analyst

Okay. And if I could follow up on the data center side. I assume that the inventory digestion we've seen a lot of data points in that regard thus far. On the IC side, I wonder if there's been any change to the trajectory of your ramp in 25-gig lasers or if that's been impacted by this kind of inventory situation as well.

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Yes, it absolutely is. Anytime you have new products ramp in the midst of a pause in inventory digestion, they're consuming inventory rather than buying new products. We're proceeding with all the customer qualifications. But frankly speaking, some of our early anticipated ramp for our lasers was customers based -- manufacturing in China, and it's just it's very hard to predict what's going to be going on. We saw the deteriorating visibility of order book. We reached out to the cloud customers, and they confirmed that they are absolutely sitting on inventory that they need to burn now in the next quarter or so. So I think they're sitting on the sidelines at this point waiting to see how the whole trade situation plays out before they get back into placing orders. That's the best intelligence we have at this time.

#### Operator

And our next question comes from the line of Blayne Curtis with Barclays.

#### Thomas James O'Malley - Barclays Bank PLC, Research Division - Research Analyst

This is Tom O'Malley on for Blayne Curtis. Just looking out into the March guidance, you guys gave some color on the different segments. You mentioned Industrial & Defense, some sluggishness there. And then you just talked about Data Center being a little slower. In terms of the vectors of those 3 businesses, could you try to help us get a picture of which one is down more than the other? I mean, obviously, you called out Industrial & Defense first, and there's been some nice growth there. But just giving us a better picture of how those business lines turn into margin.



#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

I think -- appreciate the question. You get to the issues of the precision of our forecasting ability. It's hard to really call one down stronger than the others. They're all down for distinctly different reasons. So it's hard to call which one will be furthest. I would say the I&D right now is in an interesting situation. They're coming off of 4 very strong quarters of sequential growth, 8%-plus. We've seen -- sluggishness is the right word. Some of our industrial customers for like our power transistors, that those orders kind of dried up. And now we're kind of exposed, we have that impact of the export denial for the aerospace customers. That's kind of impacting the down quarter. That said, we've actually seen the last few weeks uptake in our diode business in MMICs in terms of order intake. So there's signs of life, but it's too close to call at this point. The other stuff, I mean, it's just a matter of poor visibility, to be honest. So it's hard to really predict with a degree of precision.

#### Thomas James O'Malley - Barclays Bank PLC, Research Division - Research Analyst

Great. That's fair enough. And then just a little more color. You guys talked about your PAM4 product kind of layering in, in the second half of this year. Can you just talk about how your progress is with that product and where you think you're going to win versus some of the competition? Obviously, there's a couple of guys out there today with solutions. What makes you guys win versus those existing suppliers?

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Yes. So very good question. I think one thing that I would point out that I don't think is well understood is we're purely a semiconductor component supplier. We don't supply transceivers. So where the money is this year very clearly and where the first adoption mainstream semiconductor volumes are is in 100-gig. So we are fixated on owning a very strong share position in 100-gig. Frankly, the guys who matter in terms of network OEMs, module guys and so on in what is currently a highly consolidating supply chain into data centers, we've got a fabulous position. So that's where our focus is. I think there's some confusion where we get lumped in with other people who are fixated on 400-gig, 400-gig for the next 2, 3 years until you get to Tomahawk 4 time frame. 20-gig -- 400-gig is really a transceiver business. You can have a nice transceiver business at that level. But frankly, the customer forecast for the next 2, 3 years, we're not fixated on 400-gig. There are other things that we're doing in 400-gig that makes sense in the transceiver business, but we are fixated on ramping 100-gig, and that is unequivocally happening in the second half of the year.

#### Operator

Our next question comes from the line of C.J. Muse with Evercore.

# **Christopher James Muse** - Evercore ISI Institutional Equities, Research Division - Senior MD, Head of Global Semiconductor Research & Senior Equity Research Analyst

In your prepared remarks, you talked a bit about GaN on Silicon. I'm curious if you could kind of walk through where you are, provide an update on GaN activity. And I guess given the foundry arrangement, can you kind of walk through how we should be thinking about revenue opportunity and gross margin profile near term?

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Yes. So it's like a 3 or 4 related question. So on the GaN on Silicon opportunity, as I reported last quarter, when we recovered the patents and got them assigned back probably is more accurate description from Infineon, some of the major customers opened up with the demand forecast. And we're very pleasantly surprised. From a dollar content standpoint, it's 3x bigger than the opportunity in the 3G and 4G cycles, which is very encouraging. It's happening this year. We are active with the programs that are meaningful in terms of ramping that growth. And it's 100% right now an operational scaling issue in getting volume wafer supply. We're talking about wafer units, which are in excess of the industry supply of LDMOS in the previous cycle. When I say industry supply, in my day, it was NXP, Infineon and Freescale, 3 very large volumes suppliers. And we're sitting in a position where we need to be able to enable a supply chain that is greater wafer supply than those. So it's frankly a very challenging



operational issue. One of the subtleties that I think is lost on many people is if you have fundamental patents, then you implicitly have the responsibility to line up the supply chain. So it's been the focus of our efforts over the past quarter, and I look forward to reporting on a lot of that progress in the coming weeks and months.

**Christopher James Muse** - Evercore ISI Institutional Equities, Research Division - Senior MD, Head of Global Semiconductor Research & Senior Equity Research Analyst

Just a follow-up to Bob. How should we think about OpEx trajectory into June and beyond? And you did speak to perhaps, I guess, some onetime costs maybe moving to June from March. But just would love to hear high level how to kind of cascade OpEx through the year for you guys.

#### Robert J. McMullan - MACOM Technology Solutions Holdings, Inc. - Senior VP & CFO

Thank you, C.J., for the opportunity. So we entered, as we talked about, peak as we have some new products and mass costs that are absorbed and we're forecasting to be complete in our fiscal second quarter that pushes off into Q3. That impacts the level of EPS and why we have a bit of a wider guidance than traditionally for EPS. But that will also carry over to fiscal Q3 would be -- probably have a lot more visibility for those to come through in Q2. So the peak of operating expenses because we're expensing the mask sets is in the range of \$64 million. And that will come down, again, the timing of which depends on how close we get to the \$64 million in Q2 versus pushing some out into Q3. But we will continue to see operating expenses come down from that peak level of \$64 million forecasted or implied at the guidance we've given.

#### Operator

(Operator Instructions) Our next question comes from the line of Tore Svanberg with Stifel.

#### Tore Egil Svanberg - Stifel, Nicolaus & Company, Incorporated, Research Division - MD

John, a question on the Data Center business. I do appreciate the visibility is low there. But as we think about the inventory digestion, do you think that continues in the June quarter? Or do you get a sense that would kind of be more of the stabilization quarter?

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Well, I'll give you the exact feedback. Different cloud customers started out burning off inventory this quarter versus next quarter. So I think it's different between the 2. I think we have a 2-quarter issue on our hands. Whether this is the bottom or the June quarter's bottom remains to be seen. I would say the visibility is just horrible at this point. So it's hard to call. I mean, to be honest, it's just hard to call. So when they start materializing, what I would hope is that when the trade issues finally get ironed out that there might be some movement. People seem to be talking a lot and really not making a lot of decisions. I think people are just sitting on the sidelines, waiting, figuring out who their long-term supply chains are. I think there's a lot of different ways that can go depending on how the trade issue plays out.

#### Tore Egil Svanberg - Stifel, Nicolaus & Company, Incorporated, Research Division - MD

That's fair. And then my follow-up to Bob, Bob, do you have a CapEx forecast for this fiscal year? And are you kind of done now with some of the bigger CapEx events?

#### Robert J. McMullan - MACOM Technology Solutions Holdings, Inc. - Senior VP & CFO

Tore, that's a good question. Thank you. So we're in the \$60 million range approximately to be spent for the balance of the year. As you may remember, I've talked about a commitment we've made with ST that's getting finalized. That is in the range of about \$23 million. That's influencing



that amount of spend for the CapEx for the year. A portion of that should begin in this quarter. It's not all going to happen in one check, so to speak. It will happen over a couple of quarters here in Q2 and Q3, it's probably finished. But that enables and is critical to enhance wafer production to the levels to meet not only the balance of fiscal -- or our calendar '19 but importantly for the ramp in 2000 of wafer requirements. We're working with ST very closely on that, as we talked about. So that is an important and critical investment. We have some others as well as we go through that we're not necessarily itemizing. And I think our model is 5% of revenues. And I think if we get into next year with improved revenue, we'll be back into that model target range of 5% of revenues for fiscal 220 -- excuse me, fiscal 2020.

#### Operator

Our next question comes from the line of Mark Delaney with Goldman Sachs.

#### Timothy G. Sweetnam - Goldman Sachs Group Inc., Research Division - Research Analyst

This is Timothy Sweetnam on for Mark. And maybe sticking with the cash flow dynamics, free cash flow was negative in the quarter, and this was due in part to timing impacts for working capital items that the company talked about. I was wondering if you could help us understand how we should think about the free cash flow dynamics for this current quarter.

#### Robert J. McMullan - MACOM Technology Solutions Holdings, Inc. - Senior VP & CFO

So excellent question. There's very little, as I just mentioned, the timing of the ST investment and the CapEx there, \$23 million. It's possible that goes through at one time and not a CapEx as we're still negotiating the characterization of that, but it's going the -- money is going to buy equipment in the fab in Sicily. So we will be -- we assume that full \$23 million is expended in the quarter. We will be about \$10 million to \$12 million negative cash flow in fiscal Q2. And with the 60 against a number there for the year, we'll be cash flow positive. I'm not giving you the number at the moment, but for the year, we will be free cash flow positive.

#### Timothy G. Sweetnam - Goldman Sachs Group Inc., Research Division - Research Analyst

That's helpful. And then MACOM talked about its analog products such as its FEMs being well suited for 5G, and the company mentioned positive momentum there. Can you help us understand the content opportunity in that 5G base stations specifically from your FEM products and what the company believes MACOM's market share is?

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Sure. So there's 2 sides that we tend to refer to defense as receive side. So we're talking about AlGaAs and HMIC as our technology that go into that. Benefit is insertion loss, meaning better receptivity for the antenna. And there's really 3 paradigms, I would say. There's the sub-6 gigahertz high-power base stations. They may be 5G frequency bands, but they tend to be more non-massive MIMO but a MIMO configuration. Then there is massive MIMO, which is lower power per element but higher volume. And then the third is millimeter wave. We actually have, arguably, even more exciting opportunity in millimeter wave that we'll be talking about in the coming weeks, maybe in 2 or 3, at Mobile World Congress. So all 3 of those are in great positions. Again, the base station customers are actively sponsoring us. Very, very favorable comments in terms of what that low insertion loss provides them in terms of antenna performance. It basically improves the range of the antenna. And the share position, it's early days yet. We're not ramped into volume, but we are fairly confident in all 3 of those, we're going to have what I aspire to, which I call preeminent share position #1. But we're going to see where the share is captured in terms of which customers capture which share, but we've got a great position developing.



#### Operator

Our next question comes from the line of Richard Shannon with Craig-Hallum.

#### Richard Cutts Shannon - Craig-Hallum Capital Group LLC, Research Division - Senior Research Analyst

Maybe a question, John, on the data center side. You've talked for a number of quarters about your opportunity in developing transceiver design. I think you had, I guess we'll call it, a license a couple of quarters ago. Just want to get an update of what's going on with that customer and your success with any other follow-on customers.

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Yes, I would say I'm reluctant to talk about specific customers and telegraph exactly what their business is doing. But I would say our overall solutions program reference designs for starting the CWDM but moving on to PAM4 has very strong momentum in terms of enabling customers. One of the issues that we're trying to navigate is some of those early customers are based in China and are subject to some of these uncertainties in terms of what share they're going to be able to capture supplying out of China. But we're now developing. Latest engagements are actually outside of China. So there's nothing that's China-specific other than the fact that if you're going for a high-volume, low-cost manufacturing, there's a gravitational pull into China. Now there's gravitational pull outside of China if the tariffs get implemented. So that's part of the whole complexity that I was referring to in terms of lack of visibility. It has nothing to do with our model of enabling transceiver guys. It's just -- it's just a lack of visibility in terms of geopolitical issues in that overall data center supply chain.

#### Richard Cutts Shannon - Craig-Hallum Capital Group LLC, Research Division - Senior Research Analyst

Okay. That's fair enough. My follow-on question regarding GaN deployments. In response to a prior question, you talked about the difficulty and complexity of building up the supply chain. Maybe if you can help us understand kind of what are the long pulls in terms of making that happen and how much of that is under your control versus not and whether the complexities of geopolitical situation have an impact there as well.

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

From a supply chain standpoint, absolutely not -- arguably, the fact that we're partnered with ST, a global manufacturer with a footprint outside of U.S., is probably a favor -- unequivocally a favorable thing to our Chinese customers. If you refer to the geopolitical issue, I would say when we say totally under our control, well, we're in very close partnership with -- relationship with the ST executive team that has never been stronger. I wouldn't say that's under our control. Certainly, the enthusiasm, I think, that you'll hear from ST reflects our own enthusiasm to actually have the opportunity to introduce them some of the big league customers. And I think they were very pleased with what they heard in terms of what the demand profile is. But at this point, I would describe that situation has nothing to do with demand. It has everything to do with getting this equipment that Bob referred to up, qualified and producing wafers in very high volume. And it's not an entire production line, but there's a couple of steps that are GaN-specific, semi-specific, dropping right into the existing footprint in their factories. So it's not like factories have to be built. But it is a significant operational challenge. But similar to my experience working at NXP, ST is a world-class semiconductor manufacturer.

#### Robert J. McMullan - MACOM Technology Solutions Holdings, Inc. - Senior VP & CFO

Richard, I haven't said this before in the discussions around the ST about capital expenditures, but in mind and in timing with our investment, STMicro is making a substantially larger investment. So this is a partnership in essence coming together for the CapEx. But this is a multiyear commitment on the part of STMicro to this business.



John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director And the cash outlay for that GAN-specific equipment is greater on their side.

Robert J. McMullan - MACOM Technology Solutions Holdings, Inc. - Senior VP & CFO

Much greater on their side.

John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

To be clear, it's not like we're footing the bill alone. So yes, I mean, it's good old-fashioned scaling semiconductor wafer manufacturing at this point.

#### Operator

Thank you. And I'm showing no further questions at this time. I would now like to turn the call back to John Croteau for closing remarks.

#### John Croteau - MACOM Technology Solutions Holdings, Inc. - President, CEO & Director

Very good. Thank you. Before closing out today's call, I'd like to mention several upcoming investor events and trade shows that will be attending. First, we'll be at the Goldman Sachs Technology & Internet Conference on February 12 in San Francisco; then over to the Mobile World Congress in Barcelona on February 25 and 26, where we'll be hosting a group event for investors and analysts at 2 p.m. on Monday, February 25 and also hosting one-on-one meetings. Finally, we'll be attending OFC in San Diego on March 5 and 6 and will be hosting one-on-one meetings there as well. If you'd like to arrange a meeting at any of these events, please email us at ir@macom.com. That concludes today's remarks. Operator, you may now disconnect the call.

#### Operator

Ladies and gentlemen, thank you for participating in today's conference. This does conclude the program. You may all disconnect. Everyone, have a great day.

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