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PRESENTATION

Operator

Good afternoon, and welcome to MACOM's Fiscal Second Quarter 2018 Financial Results Conference Call. (Operator Instructions) As reminder, this conference call is being recorded today, Tuesday, May 1, 2018. I will now turn the call over to Steve Ferranti, Vice President of Investor Relations at MACOM. Steve, please go ahead.

Stephen Ferranti

Thanks, Shannon. Good afternoon, everyone, and welcome to MACOM's Fiscal Second Quarter 2018 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 today's earnings press release, you can obtain a copy on MACOM's website at www.macom.com, under the Investor Relations section.

Before I turn over the call 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 a more detailed discussions 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, its quarterly report on Form 10-Q filed on February 7, 2018, and its annual report on Form 10-K filed on November 15, 2017. Any forward-looking statements represents management's views only as of today, May 1, 2018, and MACOM assumes no obligation to update these statements in the future.

The company's press release and management statements during this conference call will include discussion of certain adjusted non-GAAP measures and financial information, including all income statements, amounts and percentages, other than revenue, referred to on today's call, unless otherwise noted.

These financial measures and a reconciliation of GAAP to adjusted non-GAAP results are provided in the company's press release and 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*

Thank you, Steve. Welcome, everyone, and thanks for joining us today. I'll begin today's call with an overview of our second quarter results for fiscal 2018, followed by a review of current end market conditions and near-term business trends. 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 providing an update on key business developments related to our long-term secular growth drivers before wrapping up with guidance for the fiscal third quarter of 2018.

Jumping right into the numbers. Revenue for the fiscal second quarter was $150 million, up 15% sequentially. Adjusted gross margin was 52% with adjusted earnings coming in at $0.13 per diluted share. As expected, the December quarter did mark the bottom of the cycle for MACOM in terms of revenue and demand.

Across our served markets, order intake and customer forecast have improved from the December quarter baseline.

Looking at some of the details. Telecom revenue was up 15% sequentially, led by mobile front-haul, backhaul and PON. I was in China 3 weeks ago and was encouraged to see things improving, following 9 months of disruption. Demand is progressively strengthening. Customers are getting back to more normalized ordering patterns, providing us with longer-term forecast roadmaps and in certain cases, expediting us for products.

While the recent announcements involving ZTE and Huawei present new uncertainties, we currently expect limited effect on short-term business in China. I'll explain that in further detail later in the call.

Looking at some of the moving pieces, as I reported last November, we saw an abrupt and significant pickup in orders in PON, demand for which had flatlined in the previous 6 months. We spent the early part of the March quarter reloading our production pipeline and had a partial quarter of shipments in Q2. Current forecasts from our customers and recent tenders from carriers suggests this recovery will carry through 2018, with an increasing mix towards 10G PON. With our laser production pipeline now largely reestablished, we expect Q3 to be a more full quarter of recovery in our PON business.

We've also seen initial recovery in fiber front-haul and backhaul for 4G and 5G networks. This, in fact, is now one of the strongest areas of customer demand in our telecom portfolio as mobile front-haul and backhaul begin to transition from 10-gig to 25 and 100-gig optical transport networks to support 5G traffic.

For coherent Metro/Long-haul drivers, we saw inventories continue to drain at our Chinese customers during the March quarter, with production resuming primarily for demand outside of China. Along these lines, we're encouraged to see backlog build as Chinese carriers start to place orders for new Metro buildouts such as China Mobile's award to our customer, Nokia Shanghai Bell, covering 13 cities and 2 provincial backbone networks. As these Metro deployments roll out, we expect to see revenue recovery in this last remaining pocket of our telecom businesses that were impacted so dramatically in 2017. In total, we expect our telecom business to progressively recover and then resume more normalized growth through coming quarters in 2018.

A couple of other things I'd like to note before moving on to data centers. Last quarter, we highlighted the impact that certain competitive developments had on our LR4 subassembly business. In response to this quarter, we took proactive action to exit the manufacture and sale of optical subassemblies. Consistent with our overall goal of providing high-margin analog and photonic semiconductor components, we will now sell chipsets and enable low-cost manufacturing partners for subassemblies. This action is expected to result in better overall cost structures for our TOSA customers, with improved gross margins for MACOM, as indicated by our Q3 guidance.

We believe this will allow us to get back to our 60% gross margin model quicker and more sustainably. Bob will provide more detail in his section.

Finally, 2 weeks ago, we proactively disclosed immaterial Q2 revenue exposure to the export ban imposed by the U.S. Department of Commerce on ZTE. In fiscal Q2, direct sales and sales through distribution to ZTE were $1.6 million. We have zeroed ZTE revenue out of our Q3 guidance. This is an unfortunate development for everyone involved as we have longer-term growth prospects underpinned with share awards and new product designs, which will now be delayed or may never be realized with ZTE. In the end, we anticipate the Chinese telecom supply chain and ecosystem will adapt to the ZTE development. Given our broader customer footprint and market-leading position and focus areas of business, we believe we can remain relatively agnostic to any potential share shifts.

Moving to data centers. Data center revenue was up 23% sequentially across our broad portfolio of high-performance analog components, photonics chips and PHYs for enterprise and cloud data centers. Overall, demand for 100-gig connectivity within data centers remains robust. We expect our sales growth to remain supply-limited for the foreseeable future.

In spite of finite supply constraints, we estimate that we enabled 3 million 100-gig ports in data centers during the first half of fiscal 2018 versus 4 million ports for all of fiscal '17. We're aggressively working with our suppliers, our own factories and our strategic supply chain partners to scale production output over the coming quarters. Our Lowell factory is currently facing demand well in excess of our ability to supply across 2.5, 10 and 25-gig lasers. We're investing heavily in capital equipment for etching lasers and testing final products, and we're working to improve yields and increase factory productivity from our existing asset base.

In total, we expect sales in the data centers to grow progressively through each quarter in 2018 as we scale analog and laser capacity and ramp our L-PIC solutions.

Now moving over to I&D. Industrial and defense was $44 million for the quarter. This part of the business played out largely as expected, with Q2 revenue up 8% sequentially. As highlighted in previous calls, we continue to benefit from share gains as competitors undergo consolidation. Much of this growth comes from catalog products, which saw a very strong demand in the March quarter. There's a clear surge in bid activity and revived demand for these products, which is driven in part by retrofitting and modernizing military equipment, in which MACOM has long enjoyed an incumbent position. In total, we expect sales into industrial and defense to progressively grow through coming quarters in 2018 as we capture share in light of strengthening demands in industrial and defense capital programs.

With that, let me turn it over to Bob to review our fiscal second quarter financials in further detail.

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

Thank you, John, and good afternoon, everyone. I will review MACOM's fiscal second quarter results and financial position, announce an agreement to exit the LR4 manufacturing business, discuss actions due to the U.S. Department of Commerce decision to deny exports to ZTE and comment on our recent Form 10-K/A filed last week.

Revenue in the fiscal second quarter was $150 million, down 19% year-over-year, but up from $131 million or 15% sequentially.

Revenue by end markets. Telecom was $64 million and 43% of total revenue, down 29% year-over-year. Data Center, $43 million and 28% of total revenue, down 16% year-over-year. And industrial and defense, $44 million and 29% of total revenues, down 3% year-over-year. Sequentially, telecom was up 15%. Data center was up 23%, and industrial and defense was up 8%.

Non-GAAP gross profit and gross margin in the fiscal second quarter were $78 million and 51.6% of revenue, respectively, compared to $109 million and 58.5% of revenue, respectively, year-over-year and $70 million and 53.7%, respectively, on a sequential basis.

In terms of operating expenses, total non-GAAP operating expenses were $62 million compared to $60 million year-over-year and $57 million sequentially. Adjusted operating expenses were up 3% year-over-year and up 9% sequentially.

Adjusted R&D and SG&A expenses were $38 million and $24 million, respectively, in the fiscal second quarter.

Non-GAAP income from operations and operating margins were $16 million and 11% of revenue, down 68% in dollars and down 16% on a percentage basis, respectively, year-over-year, and up 17% in dollars and essentially flat percentage-wise, respectively, on a sequential basis.

Net interest expense was up $200,000 over fiscal Q1. Our normalized non-GAAP income tax rate in the fiscal second quarter continued at 8%. Our GAAP effective tax rate was 3%. As to cash taxes, we had a net cash refunds of $100,000. We also resolved and completed IRS audits for tax years 2013 and 2014, which will deliver future refunds of approximately $3 million.

Our fiscal second quarter non-GAAP net income and EPS were $8 million and $0.13 per fully diluted share, respectively, down from $39 million and $0.63 year-over-year, but up from $7 million and $0.10 per share sequentially. Non-GAAP net income was down 79% year-over-year but up 28% sequentially. Non-GAAP EPS was down 79% year-over-year but up 30% sequentially.

The share count used to calculate non-GAAP EPS was 65.6 million fully diluted shares.

Adjusted earnings before interest, taxes and depreciation was $23 million, down 59% from $57 million in our fiscal 2017 second quarter but up 12% from $21 million, sequentially. GAAP cash flow from operations was $11 million compared to fiscal 2017 second quarter of less than $1 million, and less than $1 million during the fiscal first quarter of 2018.

After deducting capital expenditures, adjusted free cash flow was negative $2 million compared to negative $11 million in the fiscal second quarter of 2017, up from a negative $9 million sequentially.

Key MACOM balance sheet numbers. At fiscal second quarter end, our cash, cash equivalents and short-term investments were $190 million, down from $197 million. Accounts receivables were $107 million, up from $97 million sequentially. Days sales outstanding were 65 days, down from 68 days sequentially. Inventories were $144 million, up 1% from $143 million sequentially. Inventory turns were 2x compared to 1.7x sequentially. Long-term debt was $684 million, inclusive of capital leases. Long-term debt is termed with minimum principal annual repayments until its maturity in May 2024. We also have $160 million of availability in undrawn -- in an undrawn credit line.

MACOM is not currently subject to financial covenants. Covenants are only triggered if we draw $50 million of our revolver.

Capital expenditures in the fiscal second quarter were $13 million or 9% of revenue compared to $14 million or 11% of revenue sequentially. Depreciation expense was $7.6 million as compared to $7.5 million sequentially. Our investments in capital expenditure exceeded our current levels of depreciation, reducing our free cash flow by $5 million.

We have signed an agreement, which allows MACOM to exit the manufacturing and sales of LR4 optical subassemblies while retaining key design talent and resources to supply related semiconductor components. The transaction, which we expect will close during our fiscal Q3, includes a license fee as well as the sale of related inventory and manufacturing equipment at net book value, generating incremental cash over the balance of fiscal 2018 and into early 2019. In accordance with GAAP, MACOM wrote down certain intangibles. The write-down is noncash and results in a GAAP loss.

In addition, as a result of the actions of the U.S. Department of Commerce related to ZTE, MACOM determined we should write off, for GAAP purposes, certain assets. This loss is noncash and approximates $9 million.

One final point. Based on an SEC comment letter, MACOM amended its Form 10-K last week for its fiscal year 2017 on Form 10-K/A to remove certain unnecessary qualification in its internal control discussion. There were no changes to any numbers from our initial filing. Back to you, John.

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

Thanks, Bob. Now for some additional color on our longer-term secular growth drivers. We remain fully invested in bringing our portfolio of disruptive technologies, including GaN, L-PICs, 25-gig EFT lasers and active antenna products to fruition this year, monetizing those efforts across a range of target markets.

I'd like to take some time to explain how those efforts align with current areas of secular industry growth. Many of these insights were confirmed in executive meetings at 2 of our industry's preeminent trade shows last quarter, Mobile World Congress in Barcelona, followed by OFC in San Diego.

Mobile World Congress was all about 5G telecom networks, which represents an opportunity for MACOM in both RF and optical. On the Optical side, it's clear that 5G networks are moving right into our wheelhouse with fronthaul rooted in 25-gig lasers, analog and photonics; mid-haul rooted in 100-gig CWDM and PAM4, and backhaul rooted in coherent Metro links, a great example of which is China Mobile's recent award to Nokia Shanghai Bell. Even more exciting is a trend among the carriers to tap the same white box transceiver manufacturers for fronthaul and mid-haul optical links that we're establishing for cloud service providers. The synergies between these 2 high-growth optical markets aligning on the same transceiver and semiconductor supply chain could be quite powerful.

On the wireless side, first, an update on our GaN initiative. Last quarter, we received volume production orders for 3 GaN programs that I had referred to in previous calls. They span 2.4 and 3.5 gigahertz, which are 4G and 5G frequency bands. Power level span 50 to 270 watts. This was previously the heart and soul of silicon LDMOS suppliers. Coming out of Mobile World Congress and our ST announcement last quarter, MACOM is now enjoying executive-level sponsorship within 2 of the top 3 OEMs in Europe and Asia. Their executives view GaN becoming available from ST's high-volume silicon fab as the catalyst that, over time, will enable GaN proliferation across mainstream base stations.

Our base station opportunity is actually much broader than just GaN. Drawing from our core strength in RF & Microwave, we have other product areas that likewise represent new revenue streams for our telecom business. Where GaN is the differentiator on the transmit side, on the receive side of base stations, we've been developing an incumbent position in front-end modules, or FEMs, for 4G and 5G, drawing from our decades-long leadership in microwave switch technology for radar systems.

FEMs are the functional equivalent of the multichip modules that mobile RF suppliers ship in the handsets and smartphones. But these are high-power versions for base stations that require high-power RF technologies, which are MACOM's core competence.

Inside these FEMs are proprietary AlGaAs and HMIC switches that provide the industry's lowest insertion loss for high-power antennas. This extends the antenna's range and subscriber count significantly by allowing weaker signals to get through, a key differentiator as operators strive to maximize cell coverage and quality of service. Our switches have actually always sold in the base stations. However, the advent of 5G makes this a much bigger deal economically for both MACOM and the carriers. Massive MIMO increases element count and our SAM by 16- to 32-fold, and higher frequency 5G bands naturally challenge the antenna's range of coverage. For this reason, base station OEMs are sponsoring MACOM on the receive side, much like GaN on the transmit side. We believe our sub-6 gigahertz approach creates a large high-growth and high-value market for our fully mature and highly proprietary microwave switch and FEM portfolio. Given this near-term window of opportunity, we've been focusing the majority of our RF & Microwave investments towards operationally scaling this business in 2018 as well.

Let me be clear about something. When I talk about 5G, we're engaged on sub-6 gigahertz microwave antenna units, which were a natural evolution from 4G LTE macrocell base stations. We're not addressing 24 gigahertz and above millimeter wave bands, which play to the strength of handset RF suppliers. We don't have to wait for small cell base stations for demand to materialize.

In summary, we expect our various Optical, GaN and FEM products for 4G and 5G to progressively contribute to top line growth quarter-by-quarter in calendar 2018.

While for MACOM, Mobile World Congress was all about 5G telecom networks, OFC was all about optical connectivity and cloud data centers. The show was enlightening in many ways. One of the more interesting findings is that the cost of high-speed optical connectivity and cloud data centers now actually dominates the cost of the Layer2/Layer3 networking switch. This trend is expected to continue through 400-gig 3 years to come. The industry needs economic breakthroughs, like those we bring to bear with manufacturing innovations like etch facet lasers and self-aligning L-PIC technologies.

This year, it's clear that the market demand is all about CWDM4. Demand continues to outstrip supply of 100-gig transceivers from any and all sources. And the emergence of white box transceivers promises to fill that void.

At OFC, 2 high-volume module manufacturers were showcasing production-ready QSFP28 transceivers based on our L-PIC platform, showing interoperability with conventional discrete versions. They're now actively marketing those products to major cloud service providers, and we expect those commercial negotiations and end customer qualifications to begin contributing to revenue growth in calendar 2018 and for many years to come.

Separately at OFC, 2 other high-volume OEMs were demonstrating 100-gig single lambda transceivers, running live traffic based upon our PAM4 PHY with standards-based end-to-end interoperability. This is all the more impressive because the analog laser and photonics challenge with single lambda is, if anything, more daunting than the DSP in meeting performance and power targets. We believe these customers are on track to begin production ramps starting in 2019.

Another interesting finding is that 100-gig CWDM4 and PAM4 are now predicted to have long life cycles, much like 10G enjoyed over the past decade. 400-gig PAM4 is now predicted to be a 2021 phenomenon. Until then, we see an open playing field for proliferating 100-gig single lambda solutions across top-tier customers and into new market segments that are showing keen interest in PAM4.

In total, we expect our 25-gig lasers, L-PICs and PAM4 products to contribute to top line growth quarter-by-quarter in cloud data centers through calendar 2018.

Finally, for industrial and defense. As I mentioned earlier, we're seeing a healthy rise in demand from defense programs as agencies look to retrofit and modernize military equipment in the field. This is the strongest bidding activity that I've seen in my 5 years at MACOM. On top of this groundswell of activity, opportunities are presenting themselves for active antenna programs that address certain urgent battlefield vulnerabilities.

Just like in 5G telecom and cloud data centers, we now see an opportunity to leverage our work with empowered MIT Lincoln Labs to contribute to revenue growth in calendar 2018. I'm hopeful that I'll be able to report on impending successes in future earnings calls.

So in summary, standing in stark contrast for the cyclical challenges that we have to navigate during the past year, the tide seems to have turned. Near-term demand has firmed up, and we believe it's strengthening across many end markets and customers. With the recent award of 5G metro and provincial deployments in Nokia Shanghai Bell and others, the last remaining pocket of the downturn caused by the China government transition looks to soon be behind us. While the latest developments with ZTE and Huawei create new uncertainties, it's important to note that MACOM supplies technology and products that are not readily replicated by anyone anywhere, including China. Chinese carriers and OEMs view MACOM quite favorably, having an essential portfolio of enabling products and technologies for their 5G network buildouts. While we're hopeful that these international trade issues will be resolved constructively, we'll remain cautious in managing expectations.

At a higher level, the future looks very bright for MACOM. The industry is entering the next phase of infrastructure spending globally, driven by 5G telecom, continued strong investment by cloud service providers, and now, even a surge in defense spending and industrial capital investment. We spent the last few years developing a portfolio of disruptive products and technologies to service these targeted areas of secular growth. Major customers and market leaders have now validated our products and are actively sponsoring MACOM as we ramp into high-volume production. Many of these products use highly specialized proprietary materials manufacturing processes, which take time to perfect, yet provide strong barriers to entry once it ramps. Scaling these into high-volume production brings its own set of challenges, very different than most other parts of the semiconductor industry, which is commoditized to packages and processes. Based on our progress to date, we're confident in our ability to bring these solutions to high-volume production over the coming quarters.

In total, we expect these new products to contribute to top line revenue quarter-by-quarter in calendar 2018 and fuel MACOM's growth in 2019 and beyond. This will be paced by our ability to scale operationally, both within our strategic suppliers and within our own factories. Ultimately, we believe the future contribution from this growth will provide significant operating leverage as we monetize what were previously strategic investments for the company. Moving forward, we're going to take it one quarter at a time based upon customer backlog, order visibility and our operational ability to deliver these new products and technologies.

So that brings me to Q3 guidance. As Bob noted earlier, we're guiding Q3 having exited LR4 subassemblies. For context, if we were to restate Q2 on a pro forma basis, our reported revenue would've been $138 million, 54% adjusted gross margin and $0.09 adjusted EPS. For the fiscal third quarter ending June 29, 2018, we expect revenue to be in the range of $142 million to $150 million. Adjusted gross margin is expected to be between 54% and 57%, and adjusted earnings per share between $0.09 and $0.15 on an anticipated 66 million fully diluted shares outstanding.

As you can see, our Q3 guidance represents continued recovery in demand and significant gross margin expansion at the short-term expense of minor dilution in EPS from the transaction.

Longer term, we believe this move will help us scale both 5G telecom and cloud data center revenue at gross margins that are at or above our target financial model. Operator, you can now open the call to questions.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) Our first question comes from Blayne Curtis with Barclays.

Blayne Peter Curtis - *Barclays Bank PLC, Research Division - Director & Senior Research Analyst*

John, just wanted to make sure I heard you right. You said if you took the LR4 out of the $138 million in March, so is there no LR4 in the June guidance? And then, maybe just talk about the margin, even you said it would be restated at 54, your guidance suggests an uplift there, maybe you could just talk about the drivers of the improving gross margin.

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

Yes. Good questions, Blayne. Yes. So there is, based upon closing date, a small amount of contribution in the next quarter that does have some dilutive effect on gross margin, also some residual revenue, but the actual contribution to our earnings is de minimis. We actually bracketed our guidance to incorporate different timing and closing. We think it's going to be very quick and clean, but if it takes a longer, we'll have a little more revenue and a little lower gross margin mix and vice versa. So we model that out to make sure we bracketed things properly. And you're right, there's gross margin expansion implicitly, about 200 basis points due to the extraction of the LR4 business. We also have the expanding gross margins with lift in the new products and the growth in the recovery. And we can -- it's the same old recipe, Blayne, for the gross margin expansion. I think the last remaining piece, as the Metro/Long-haul stuff recovers, we've got the orders building for recovery, some kind of last pocket. I think we'll continue to see gross margin expansion through the course of the year, hopefully getting to our 16% target sooner rather than later.

Blayne Peter Curtis - *Barclays Bank PLC, Research Division - Director & Senior Research Analyst*

Actually following up on that last quarter, you talked about a couple of headwinds to gross margin, mix shift down, I think, in telco and then some pricing pressure in data center, just kind of curious to your thoughts on the overall pricing environment?

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

I'd say, the way I'd describe it on the data center side is the economics change as it scales from it's 1.6 million units, ports a few years ago to, I think, it was 4 million ports last year. As it continues, I mean, the numbers change. Actually, from a gross margin percentage, we've been able to maintain that analog business at the previous numbers, which are very attractive. I described it as "Hittite-like". So -- but that's a testament to the fact that we're managing our cost structure consistent with the market ASPs. I think the other mix shift might have been the Metro/Long-haul thing that I had mentioned in terms of the unfavorable mix. I mean, that's traditionally been a very nice and lucrative business, those Metro/Long-haul drivers and so on. But again, that's on its path to recovery now as well.

Operator

Our next question comes from Quinn Bolton with Needham & Company.

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

Maybe I'm looking at this the wrong way, but obviously, we've got consensus estimates out for the June quarter that included the LR4 business you're guiding to no, or very small LR4 revenue in your 142 to 150 guide. Can you give us some sense of what -- had you not sold the business, what the revenue guide might have been? It looks like LR4 revenue in March was about $12 million, would it have stayed at about that level in June?

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

Go ahead, Bob.

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

Quinn, it would probably, on a full quarter basis, be in the $9 million to $11 million range. That's nowhere near where it's going to be. The contribution on that was this is a declining margin business, as we've talked about here. So the contribution of past quarters is not representative of what it would be on our books going forward. So again, overall, I think, it's de minimis from an EPS perspective. There were other drivers in our business that are contributing. But obviously, I think, it's a $0.02 or $0.03 contribution that is no longer available to us. But again, gross margins improve and the long-term challenge with respect to maintaining even minimum margins has been resolved through the sale.

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

Yes, actually, if I can build on that one a little bit on a longer basis. So Bob's comment is spot on for the next quarter. So I think, one of the beauties of this move to exit is we're falling back on a chipset business. It actually allows with our supply chain partners a better cost structure to our TOSA customers. So there's the opportunity to make it accretive as they can take back share and actually expand the business and expand beyond LR4. So it ends up a very cost-effective supply chain, frankly, is what we had already set up for our CWDM4 business, so it can actually end up, in the medium term to longer term, quite accretive.

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

Got it. And then, you guys have done nice job of enabling a growing number of 100-gig ports over the last couple of years. Of the 3 million you've enabled here in the first half of fiscal '18, can you give us some sense what your laser attach is? Is that in the double-digit percentage? Is it higher than that? Any kind of update? Can you provide any update?

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

Yes. I'd say it's still very much skewed towards the analog side of the business. What's happened with our 25-gig lasers is those are the new products we referred to where we're on the process of yield improvement. And until we get things yielding such that they deliver better revenue, then other things that we could fill our factories with, we make sure we supply our strategic customers, the strategic cloud customers. The LR4 business, for instance, was all based upon our lasers, so they ship. But don't have a particular religion towards shipping data center as opposed to PON. Frankly, our religion is about delivering maximum EPS to our investors short term.

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

Great. And then, just quickly, Bob, can you give us a sense what the $9 million written-off for the ZTE write-down, was that just inventory that was custom ports to ZTE and perhaps not shippable to other customers? Or is it something else?

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

A portion, a small portion, about 1/3 of it, was more or less custom identified inventory that we know is coming back from distributors in the channel. The largest portion, approximately half the number, is a capitalization of a custom ASIC mask cost that, under the rules here, we would match cost through amortization, the mask cost against future production when we go into production usually a few months away from initial mask, final mask set conclusion. So without the ability to export, that custom ASIC is a dead product.

Operator

Our next question comes from Harsh Kumar with Piper Jaffray.

Harsh V. Kumar - *Piper Jaffray Companies, Research Division - MD & Senior Research Analyst*

First of all, congratulations. Looks like business is turning good trends. John, if I could ask you, your revenue rise in the June quarter over the March quarter, is there any way for us to think about how it breaks down between your 3 different categories of business? And I've got 1 or 2 follow-ups.

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

Yes. So all 3 reported segments are up. From what we anticipate, continued strong growth in data center, continued recovery in telecom, also modest increase sequentially in I&D. So it's pretty much across the board. So it's -- sorry, and that's once you back out the LR4.

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

Yes. So telecom is down, obviously. A $9 million to $10 million number is not apples-to-apples in terms of the previous quarter. If you back it out, telecom is up.

Harsh V. Kumar - *Piper Jaffray Companies, Research Division - MD & Senior Research Analyst*

Understood. That's very helpful as a clarification. And then, I was intrigued by your comments on GaN on silicon, you mentioned, and I missed the last part of it, something about 3 production, either orders, or 3 customers that you have that have given you production-type orders. Would you clarify what you mean by that?

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

Sure. So previous quarters, I've been reporting on early programs that we -- initial programs where we had received production wins. We've now received the volume production orders. If you remember, I was talking about they had to go through a sequence of preproduction builds. And so we've passed all those gates. Now we have the production on those first 3 programs. So that's vitally important because performing operationally was the last thing that we had to do. And we'll have to continue to perform. We always need to perform, obviously, operationally. So that's a big deal. I think the big shift this quarter was the response to the ST announcement exceeded, frankly, even my own expectations. I've long known supply chain issues are very, very important in that base station world as demand is quite volatile. So the ability to surge to meet demand is vitally important, and this is arguably the first GaN supply chain that can actually operate with the same scale, capacity, surge capability as LDMOS. So like I said in the scripted remarks, we're actually being sponsored now in top-down at the executive levels, 2 of the guys, very relevant guys who matter. So it's -- I think, we're off of the races at this point.

Harsh V. Kumar - *Piper Jaffray Companies, Research Division - MD & Senior Research Analyst*

And John, would you clarify when can we -- I know that base stations are expected to go down in the ground about the end of the year or early next year. Would you expect revenues by the September quarter? Or will it be in the December quarter, some starting revenues?

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

Yes, it's this quarter. We've got the production orders. We're shipping. I mean, I want to set expectations though. We're guiding one quarter at a time. And 1, 2, 3 programs is a starting point. It's walking before you run. Where you really start piling up the revenue is when you start proliferating geometrically across programs at the guys who matter. And that's the role that the ST -- I called it a catalyst in the scripted remarks, to be able to proliferate across those programs and scale to meaningful penetration to be able to meaningfully contribute to growth. That will come with time and geometrically and quarter-by-quarter. So I don't any don't want anybody to think there's some tsunami of revenue that's impending, but there's no question that, progressively, quarter by quarter by quarter, over the coming quarters and years, the vision looks to be on track to be realized.

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

And not to compromise what John said, but we have, for the first time, shipped production orders.

Harsh V. Kumar - *Piper Jaffray Companies, Research Division - MD & Senior Research Analyst*

And Bob, if I could sneak one for you, would you help us out with kind of what you're expecting for OpEx because I'm asking this because the LR4 business is now gone, and I'm curious how that impacts your revenue stream -- I'm sorry, OpEx stream for guide, June quarter?

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

Yes. So at midpoint, the OpEx would translate in total in, call it, $65 million to $66 million range. We do have -- continue to have a new product development and shipping product to variable material costs that is up this quarter. This goes back to last quarter's scripted comments and discussion of continuing to make investments in critical new product developments that are 1 quarter or 2 from turning on. So that's what drives the increase. There are some nuances in fixed cost that go up at this time of year. But generally, the increase is variable material cost.

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

Yes. So a good example of variable material is mask and wafers. So obviously, if you're going to scale these programs that I keep referring to, we need to be taping out, we need to delivering, and that shows up as OpEx, it's material cost.

Operator

(Operator Instructions) Our next question comes from Mark Delaney with Goldman Sachs.

Mark Trevor Delaney - *Goldman Sachs Group Inc., Research Division - Equity Analyst*

First question is on Huawei. I was hoping you could level with us on what the company's exposure is to Huawei at this point in time? And certainly, understand MACOM wouldn't have visibility on what sanctions, if any, would be put in place. But just given the news of potential sanctions there in addition to ZTE, curious if you think Huawei would be potentially pulling inventory ahead of time to mitigate against a potential sanction? Or do you think you're seeing that?

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

Yes. So let me answer your question directly and then I'll provide some additional color. So our business with Huawei now is less than 5% of sales. It's not unlike the level of exposure to ZTE. And the thing that's materially different from before the downturn a couple of years ago and now is where Huawei before internalized a lot of the production of TOSAs and transceivers and things, they now outsource those from an ecosystem of people that we sell to who serve as Huawei in the past ZTE, fiber home location and (inaudible) so on. It's much more of a distributed business, much healthier condition than there was. So I think our degree of exposure is materially different than it used to be. But let me provide some color on the Huawei situation. I would caution people not to lead to the same denial of export that ZTE got. My interpretation is what they announced leads me to believe that there might've been a bad actor that made a bad transaction to the bad guys, which would not necessarily lead to the same kind of denial that ZTE was. In ZTE, I think there were 35 mid-level managers and 4 executives that were involved, which implies a much broader footprint within the company. So that's the reason why I think they got the denial. There's no question that trade wars and export controls are not a good thing, but Huawei is profoundly -- they're a multicultural company that does a lot of business internationally, and they take their reputation very seriously, not that ZTE doesn't, but it's much more of a local Chinese supplier. So I would fully expect that Huawei would be complying with everything necessary to clean their name. And if there was a bad actor, they would be taking action where it seems that ZTE did not.

Mark Trevor Delaney - *Goldman Sachs Group Inc., Research Division - Equity Analyst*

That's helpful. A quick follow-up on the prior OpEx question. I understood the guidance, Bob, you gave for OpEx next quarter. I'm just curious, as I start thinking about September, is there a step down in OpEx once, assuming the module sale goes through and maybe the material cost normalize?

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

I don't understand the question on modules. We don't make and sell modules.

Mark Trevor Delaney - *Goldman Sachs Group Inc., Research Division - Equity Analyst*

Sorry, the LR4. Yes, sorry. The LR4 sale.

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

Yes. So I repeat that much of the LR4 cost in our P&L was direct cost related to the manufacturing and production side, so that goes through COGS more so. There's a couple of small amounts of SG&A that go away, but most of the direct costs are part of the manufacturing process, so there is some fluctuation in the material cost we have. Again, I would, at this point in time, without giving forward guidance 2 quarters, just the 1, I would say that the model might increment up slightly.

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

Yes, so COGS is materially reduced in the transaction. One thing I'd emphasize is we actually retained the design competence. the design team because it allows us to do production designs to be able to enable these white box transceiver guys. So there's not a material improvement in OpEx related to that transaction. It's on the COGS side.

Operator

Our next question comes from Mark Kelleher with D.A. Davidson.

Mark Daniel Kelleher - *D.A. Davidson & Co., Research Division - VP & Senior Research Analyst*

I wanted to check on the PON market a little bit. Been a great recovery there. I know the demand has outstripped your ability to supply recently. Can you give us an update on your efforts to bring that into balance?

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

Yes. I mean, we're doing everything we can to scale production, but the PON lasers are actually fully mature. So it's not an issue of yield improvement, those are not at full maturity yields, so that's more of an issue. The yield improvement is more on the new products with 25 gig. But -- I mean, we're bringing up new etch in our etched facets. We have to etch wafers to produce lasers, so there's that. We have final test. We're expanding capacity, so between 2.5, 10 and 25-gig lasers, looks like we're sold out for the foreseeable future, which is a good thing. The bad thing is the people who we can't supply aren't necessarily real happy. But you're right, the PON market came back strong. I reported that as far back as November. I actually saw some interesting report that shows the total units on the client side of PON back to 80% of what was previously the peak 2, 3 years ago. And that's up from being 65% down year-on-year a year ago. So if you do the math, that's more than 100% growth year-on-year. That was after a good, solid start of the year last year and then flatlined. So it was -- they drained all the inventories, and now it's back on hard. And we'll be supplying every unit that we can possibly supply as long as they pay for it.

Mark Daniel Kelleher - *D.A. Davidson & Co., Research Division - VP & Senior Research Analyst*

Okay. And then, just -- I just want to go back to the data center opportunity. I know you're working with some contract manufacturers, with some manufacturing partners. Is that what you're talking about with your white box opportunity with LR4s? Or can you give us an update on what you expect the data center business to do with those partners?

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

Yes. So I mean, you're used to the usual white box term. I mean, now, they're looking to reach to transceiver manufacturers, low-cost manufacturers that we enable for 100-gig transceivers, CWDM4 and beyond. So the interesting thing, this development this year or this quarter was the 5G telecom carriers are also assessing the same supply chain, so they would go straight to the manufacturers to source transceivers. So it's just they're low-cost, very high-volume manufacturers of optical assemblies and modules. So it's -- and the cloud guys, that's what it's all about. I mean, the thing that we learned in OFC is the cost structure that they have, it's a very large part of their cost of their data centers at this point. So it's very price-sensitive and getting the most cost-effective supply chain is a big deal for them.

Operator

Our next question comes from Tore Svanberg with Stifel.

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

John, could you put a little more framework on the recovery you're seeing in long-haul and Metro? Would that business be up in Q2 and then kind of accelerate from there? Any framework you could give would be helpful.

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

Yes. The progression, I mean, that was one of the most precipitous declines that we saw last year, first PON and then Metro/long-haul stuff. The way -- my interpretation with our Chinese customers is they shipped and burned off the inventories using demand outside of China, but the China demand has not yet materialized, certainly in our revenue and their revenue. That said, we were told to expect after Chinese New Year that the China -- the carriers would begin issuing tenders and awarding business. Sure enough, a few weeks back, we saw that the China Mobile awarded the Nokia Shanghai Bell as a pole position for, I think, it was 13 cities and 2 provinces. So it looks to be -- and our customers are telling us, expect more to come. Now our backlog had been building. We didn't realize who it was for. But with Nokia, it was building in anticipation of that. I would expect that as those tenders -- the second half of the year would probably be back in a healthy state. I think, June is probably a transitional quarter for that. But I'd describe it, over in China right now, behaviors are getting back to normal where they were fairly dramatically changed through the second half of last year. The order patterns are returning to normal and so on. But I think it's too early to call it for June.

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

That's helpful. My follow-up question is on L-PIC. Could give us an update on your capacity there, I don't know, either by millions of units of ports that you can serve or how much revenue you can get out of it? Any framework on L-PIC capacity would be a great thing.

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

Sure. So again, one of the policies we're trying to go back to guiding to one quarter at a time. So I'll tell you where we are and where we're headed. So at OFC, there were 2 high-volume transceiver guys who were demonstrating production QSFP28 modules. They're out securing business with cloud service providers and network OEMs, negotiating commercial terms and so on. We're in no control of that so we can't call that a win or not. So it's too early to call in terms of calling revenue. Again, we're going to be very cautious until we see orders and forecasts from end customers. We want to be cautious on these things. I would say, in general, the L-PIC platform is going to scale with global foundries. I think it was transparent last quarter. They're the source for our silicon photonics. We're bringing up the L-PIC process in and with global foundries. I think, ultimately, that's going to gate the transition from discrete to integrated L-PIC designs. And last comment I'd make is we set up these reference designs at both the subassembly and a module level such that requalification of the module is not necessary, so it's kind of greasing the skids. And whether it's a discrete subassembly or L-PIC-based one, it's more quickly and readily adopted. And frankly, it's a cost-reduction and a capacity scale for the cloud service provider. So we'll guide that one quarter at a time, but it's not a June production on the L-PIC.

Operator

Your next question comes from Harlan Sur with JPMorgan.

Harlan Sur - *JP Morgan Chase & Co, Research Division - Senior Analyst*

It's great to see the inflection in the business here. On the move to exit the LR4 optical subassembly business, are you guys exiting the entire TOSA, ROSA business for both telecom and data center applications? Because -- I apologize if I misunderstood, but I thought TOSA and ROSA capabilities were key to driving your overall strategy for sort of low-cost profile for your data center products as well. So for example, L-PIC, 100-gig, CWDM combined with your TOSA, ROSA capabilities, or even clear upcoming L-PIC-based 400-gig module solutions.

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

So it's a very, very good question. And let me start by saying yes and no. So you have to separate the issue of delivering production designs and qualifications separate from a transactional sale of the manufacturing and sale of the subassembly. So on the former, we're not exiting. We have the full capability -- we'll retain the full capability to do full production designs of TOSAs and ROSAs, which is vitally important because that's how you enable these white box guys and low-cost supply chains. But the latter -- transactionally selling the subassembly is unnecessary. It's arguably dilutive from a gross margin percentage standpoint, and we found out the hard way, having continued the -- the difference with LR4 and other things is when we acquired FiBest, there was a production run rate LR4 business, so we never stopped doing it, and we found out the hard way that sustaining 60% gross margins in that kind of business or close to it is, in retrospect, not possible. We improved the gross margins but when the going got tough and things got very competitive, things collapsed back. Now I can tell you, in that same model with current market pricing, selling the chipset into a low-cost supply chain, we can meet or beat our 60% gross margin model. That's the magic of this thing. Now we had already teed up our CWDM4 strategy to be in that supply chain model. We just moved the LR4 business to the same one.

Harlan Sur - *JP Morgan Chase & Co, Research Division - Senior Analyst*

And sort of thinking about kind of next-generation Long-haul/Metro, I saw you guys at OFC, you guys were showcasing your 45 GBaud, 64 GBaud solutions, which should drive kind of next-wave 200-gig, 400-gig Metro. Are these products going to start to contribute to the sequential revenue growth trends as we progress through the year? Because we are hearing about sort of initial deployments of at least 200-gig Metro.

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

Yes, I would say it's not going to drive growth. I would say the Metro/Long-haul business that we have and some of our peers have is somewhat mature. We don't see it as a growth business. It's a mix. Mix over some of the higher higher-performance products. The overall SAM for Metro/Long-haul is not necessarily going to expand. Where the growth is in that telecom segment as it relates to the carrier purchases is much more of a shift towards the fronthaul, mid-haul, backhaul optical transport network -- I'm sorry, backhaul is more of a coherent stuff that you're referring to. And Nokia Shanghai Bell is a perfect example of that 5G Metro buildout. But -- I mean, materially speaking, you look at the unit volumes, they're consistent with traditional Metro expectations. The growth, if you may, is in the fronthaul, mid-haul, which would be 25 and 100-gig, shorter range, 2-kilometer, 10-kilometer type stuff.

Operator

Our next question comes from Tim Savageaux with Northland Capital.

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

I wanted to follow back up on the PON market, maybe leveraging off your answer to a previous question about units being back toward peak levels. I think you guys have called out in the past is that PON laser business peaks for you maybe in the $25 million, $30 million range on a quarterly basis, several quarters ago. As you guys talk about the recovery here, I wonder if you could maybe measure your progress relative to that previous peak in terms of what you saw in the current quarter and, eventually, where you expect the PON laser business to return to from a revenue standpoint and whether you might be able to add any additional color on previous peaks for wireless backhaul, fronthaul and where you stand now relative to those?

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

Sure. So providing any kind of forward guidance beyond the next quarter is what we try to avoid. Let me talk about the demand to get to the spirit of the question. So from the numbers we've seen this year, they're getting back to 80% of the unit volume on the client side of the previous peak. At that previous -- plus ASPs have come back at a lower level, as you would naturally expect going through a downturn. So we're not suggesting we'll get back to the peak. The other thing from a revenue as opposed to a demand standpoint, we're in a supply-constrained environment. So for instance, as we improve the yields in 25-gig lasers selling into fronthaul or data center, we will just shift that capacity and shift over away from PON. So we're not religiously linked at the hip to PON or anything else. I mean, we're going to optimize where our capacity is best implemented. So we've got be careful about -- PON is a nice demand right now. It's filling our lines and filling our capacity, but that may go up or down depending on how other parts of the portfolio goes. I would say the other interesting thing with PON that's going on is increasing shift towards 10-gig PON, both 10G-EPON and XG-PON. 10-gig EPON is actually asymmetric, 10 gig downstream, 2.5 gig upstream. So that's kind of a hybrid. We sell 2.5-gig lasers into the client side. So lots of very interesting trends. PON is going to end up very attractive in many ways and not just for our laser business, which is traditionally what we did in PON. We got a very strong position with the laser drivers and TIAs there as well. So it's a -- it will be moving targets over the coming quarters.

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

Great. And if I could follow-up just briefly, I mean, if you look at, I guess, about 8 million or so in sequential growth in telecom last quarter and some amount, forecasted apples-to-apples ex LR4 for the current quarter, is it fair to say that most, if not all of that, is PON and kind of wireless, if you will, backhaul, fronthaul-driven in both periods? Are you seeing any growth or developments on the Metro/Long-haul side that are notable?

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

Yes, I would say backward, the first thing that we saw -- actually, the first thing we saw the decline last year was in PON. The first time we saw recovery was November when I was in China. And just it came back full on now. You can't instantly start shipping product that you haven't been building. So we had partial quarter of contribution but we'll have more. On the Metro/Long-haul side, I think, we have not yet seen the China demands recover. Certainly, we see the deployments. We see the orders building in our backlog in support of that. But I would say that is the last pocket that we're waiting to see over the June quarter, September quarter. I think, as you get into the back half of the year, given the tea leaves and the things that we're told, that's when you would see that recover to a more normal state. I think the other twist on it though, too, is we talked about last quarter about the shift from Long Haul towards Metro, you look at it from a carrier standpoint, so you shift from Long Haul towards Metro towards the Metro being backhaul and now mid-haul at 100-gig and fronthaul at 25-gig, which is the other dimension when I talk about recovery in fronthaul and backhaul, a lot of the expedites that we're getting are 25-gig lasers for fronthaul. So I think carrier spending in China is actually turning on pretty well. It's just a different mix in this infrastructure buildout.

Operator

(Operator Instructions) Our next question comes from Mark Lipacis with Jefferies.

Mark John Lipacis - *Jefferies LLC, Research Division - Senior Equity Research Analyst*

John, in your script, you said demand in excess capacity on the data center side. Does that suggest elevated CapEx for the rest of 2018? How should we be thinking about CapEx? And the second part of that is given you had $195 million quarter last year, does that suggest you have excess capacity in other places and that you can meet upside quickly should it manifest?

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

So very good questions. So the way we run our business, the way any semiconductor company does is products and business lines and business units. I would say, our HPA, high-performance analog business, which is sold over to data centers, has been struggling to meet unit demand, not in a native sense shifts. When you're talking about the kind of percentage increases just getting wafers allocated from suppliers like TowerJazz and so on, it's nontrivial. So that's -- when you talk about that kind of growth in data centers, the analog business stays -- is trying to stay on top. But the other thing is we run a laser business. So getting the yields up to be able to get the unit output and factory productivity to the levels that we need to see, and that is where our manic focus is right now in terms of scaling the data center business. So continued growth in analog. You've got the lasers. At some point, L-PICs will start contributing in a more and more material way. At the same time, in 2019, you'll start to see PHYs, PAM4 stuff. That becomes more salient in 2019. So it's layers of growth beyond the analog. Do you want to address the CapEx part?

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

Yes, the CapEx will be in the range, continue to be high as these CapEx investments are assisting in expanding capacity and some are unique to new products that are required to get them out the door to start with. So we will, this year, have an elevated CapEx level.

Operator

Our next question comes from C.J. Muse with Evercore ISI.

Sajal Dogra - *Evercore ISI, Research Division - Associate*

This is Sajal Dogra calling in for C.J. Muse. So I wanted to ask you if you're seeing any ASP pressure on any specific confidence, like drivers, TIAs, given the move to CWDM? And if any of these (inaudible) confidence have excess inventory right now?

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

Good question. So we don't see any excess inventory anywhere and certainly in the data center stuff and PON area. I mean, people are living hand to mouth. I think, in the Metro/Long-haul, they're draining the last inventories from the downhaul -- downturn. In terms of ASP pressure, I would describe it this way, when you scale units from 0 to 1.6 million to 4 million to, I don't know, 7 million, 8 million, to -- on a path to 10 million, 20 million, naturally, the economics evolve. The cost of the transceiver evolves. There's price pressures, if you can call it that way. But if you do your job as a semiconductor company, I think, the guys running our high-performance analog business have done a fantastic job, you drive your cost structure consistent with that. So I mean, we've been able to maintain very attractive gross margins, at the same time, meeting the economic demands as this market have scaled. I think we're poised to do the same thing with lasers. We're poised to do it with everything else. So it's part and parcel from going to hundreds of thousands to millions to tens of millions. It would be naive to think that you're going to maintain the same kind of ASP and cost structure throughout time. So as it stands, we're doing a good job holding up gross margins in our data center business and we anticipate that to continue.

Operator

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

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

Maybe just a couple of quick ones for Bob. Bob, you talked about your implied OpEx for the June quarter, which is a significant ramp up in the last 2 quarters. How should we think about the trajectory going forward? Is this going to be more of a modest growth? Or are we going to see this pretty aggressive ramp here for at least another quarter or 2?

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

Yes. Again, without giving specific guidance by quarter, we'll do next quarter, I think the rate of increase will decline in forward quarters, but -- and again, some of these expenses are variable, so we could even have declines.

Operator

And I'm currently showing no further questions at this time. I'd like to turn the call over to John Croteau for closing remarks.

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

Very good. So before closing out today's call, I want to mention that we'll be attending a number of investor events between now and midsummer, including Goldman Sachs Leveraged Finance Conference on May 10 in Rancho Palos Verdes California; Craig-Hallum's Institutional Investor Conference on May 30 in Minneapolis; and Stifel's Cross-sector Insight Conference on June 13 -- 11 to 13 in Boston. If you'd like to arrange a meeting at one of these upcoming events, please email us at ir@macom.com That concludes today's remarks. Operator, you may now disconnect the call.

Operator

Ladies and gentlemen, this concludes today's conference. Thank for your participation and have a wonderful day.