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Q3 2023 Harmonic Inc Earnings Call

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PRESENTATION

Operator

Welcome to the Third Quarter 2023 Harmonic Earnings Conference Call. My name is Carmen, and I'll be your operator for today's call. (Operator Instructions) Please note that today's conference is being recorded. I will now turn the call over to David Hanover, Investor Relations. David, you may begin.

David Hanover

Thank you, operator. Hello, everyone, and thank you for joining us today for Harmonic's Third Quarter 2023 Financial Results Conference Call. With me today are Patrick Harshman, President and Chief Executive Officer; and Walter Jankovich, Chief Financial Officer. Before we begin, I'd like to point out that in addition to the audio portion of the webcast, we've also provided slides for this webcast, which you may view by going to our webcast on our Investor Relations website.

Now turning to Slide 2. During this call, we will provide projections and other forward-looking statements regarding future events or future financial performance of the company. Such statements are only current expectations and actual events or results may differ materially. We refer you to documents Harmonic files with the SEC, including our most recent 10-Q and 10-K reports and the forward-looking statements section of today's preliminary results press release. These documents identify important risk factors, which can cause actual results to differ materially from those contained in our projections or forward-looking statements. And please note that unless otherwise indicated, the financial metrics we provide during this call are determined on a non-GAAP basis. These metrics, together with corresponding GAAP numbers and a reconciliation to GAAP are contained in today's press release, which we have posted on our website and filed with the SEC on Form 8-K.

We will also discuss historical, financial and other statistical information regarding our business and operations, and some of this information is included in the press release. The remainder of the information will be available on a recorded version of this call or on our website.

And now I'll turn the call over to our CEO, Patrick Harshman. Patrick?

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

Well, thanks, David, and welcome, everyone, to our third quarter call. Today, we reported third quarter results, which were within our guidance range and expectations as we continue to make substantial progress in a number of key areas, including DOCSIS 4.0, fiber-to-the-home and Video SaaS. We ended the quarter with strong backlog and deferred revenue, showing our alignment with our customers' growth plans and giving us further confidence in our long-range growth prospects.

Before diving into the details of the quarter, I mentioned 3 overarching points. First, regarding our broadband business, we're financially healthy. Our technology execution and differentiation remains very strong. We're uniquely positioned for a sustained period of network investment, and we therefore remain fully on track to deliver strong multiyear growth. Second, our Video SaaS business continues to deliver strong recurring revenue growth of 42% in the third quarter on a year-over-year basis, with several new customers recently won and being on-boarded. With Live sports still in the early innings of migrating to streaming platforms, we believe there is substantial runway for growth in our Video SaaS. And third, we're announcing that we have commenced a formal strategic review process for our Video business. Due to changes in the marketplace and our customer strategies, synergies between our broadband and video businesses are now less compelling.

Additionally, we have received interest from several external parties for our video business. These factors, coupled with capital allocation planning led us to initiate the strategic review. Together with financial and legal advisers, we're assessing a range of alternatives for the Video business with a clear goal of optimizing long-term value. Walter will provide additional color momentarily. Moving now to our broadband segment highlights. We delivered segment revenue of USD $75.8 million, down from USD $91.9 million a year ago, largely as expected. The number of global customers deploying our solution reached 104%, up 21% year-over-year, with corresponding 23.5 million data cable modems now served worldwide. Approximately 13% of cable modems deployed globally, highlighting the significant footprint expansion opportunity still in front of us.

You'll recall last quarter; we anticipated this third quarter revenue decline for 2 related reasons. First, some customers were bleeding down inventory positions established during the pandemic. And second, better-than-anticipated progress on DOCSIS 4.0 technology was leading to a slowdown in DOCSIS 3.1 deployment plans in anticipation of DOCSIS 4.0 roll-out. This is all playing out largely as we had anticipated. Regarding DOCSIS 4.0, the progress has been stunning. A powerful cOS cloud-native software is way out front of the rest of the industry, handling both variants of the DOCSIS 4.0 specification, full duplex and extended spectrum along with 5G fiber in a unified way that simply isn't possible with legacy CMTS solutions that we compete against. Equally impressive has been the edge device work we've done to enable unified support of FDX STN fiber, providing deployment optionality that's a game changer for the industry.

While anticipation of DOCSIS 4.0 rollout may impact certain customers' near-term deployment plans. The mid- to long-term story for Harmonic is quite positive. As our technology leader is extended, we have an opportunity to sell this DOCSIS 4.0 technology into already deploy DOCSIS 3.1 networks, and our customers have a new tool to deliver their consumers highly competitive multi-gigabit services. In parallel with this advanced DOCSIS 4.0, we've also been making impressive progress in the fiber-to-the-home area. We've secured 14 new fiber winds, including 10 in our existing customer base and for net new with fiber-focused or fiber online providers. The growing fiber success with existing DOCSIS customers highlights the value cable operators see and our unique cOS core with its flexibility to simultaneously power DOCSIS and fiber edge devices. We expect fiber penetration within our existing accounts to grow as cable operators increasingly deploy complementary fiber-based broadband to new and existing subscribers. And then at new winds outside of our traditional cable operator footprint demonstrate our expanding fiber sales focus and success. The recently announced new OLT shelf, which supports 10G, Combo PON and NG-PON will further empower our sales force to engage with a variety of customer profiles domestically and internationally.

In summary, we remain confident in our technology, our market position and our growth opportunities for our broadband business, expanding broadband cable and fiber. With continuing strong backlog and deferred revenue, very strong customer endorsements for example, the recent SCTE Cable-Tec Expo 2023 in Denver and new design winds in every geography we're well positioned for sustained growth. So turning now to our Video segment. The highlight of the quarter was again SaaS revenue, USD $12.5 million, up 42% year-over-year. Total revenue was USD $51.4 million, down from USD $63.8 million a year ago, reflecting our intentional SaaS transformation and several video plants project delays and select customers contend with macroeconomic headwinds. Highlighting the accelerating transition to streaming SaaS, new winds happened at a record pace as our total SaaS customer base grew by 20%. Approximately half of these new SaaS winds were with historic appliance customers.

So to be clear, in addition to some of clients' deal delays, we're also seeing more appliance customers starting to transition to SaaS. Only a few of these new SaaS engagements came online during the quarter, meaning our recurring sales revenue funnel continues to grow. Live sports remains the primary driver of these new SaaS winds, is exceptional video quality, low latency, flexible targeted ad insertion and a broad array of quality-related benefits continue to differentiate us in the market. Among our latest sports streaming customers, our global player View Lift and WRC promoter in Germany, with whom we recently issued press releases. On the appliance side of the business, which is more capital intensive for our customers, we saw several instances of extended project delays. However, our domestic and international sales pipelines for the coming periods has actually grown, and we're starting to see encouraging signs of pent-up demand and a resumption of activity.

So finally, before I hand you over to Walter, I'd like to briefly comment on the situation in Israel. Like many, we were outraged by the horrible events that have taken place during recent weeks to our colleagues in Israel and families, and please know that our hearts are with you during this extremely trying time. As a company, our first and utmost priority is the safety of our people. The majority of our people are secure, and we're taking the appropriate measures to ensure their continued safety and support. And with that, let me hand it over to you, Walter for a deeper discussion of our results and outlook.

Walter F. Jankovic *Harmonic Inc. - CFO*

Thanks, Patrick, and thank you all for joining us today. Before I discuss our quarterly results as well as our outlook, I'd like to remind everyone that the financial results I'll be referring to are provided on a non-GAAP basis. As David mentioned earlier, our Q3 press release and earnings presentation includes reconciliations of the non-GAAP financial measures to GAAP that are discussed on this call. Both of these are available on our website. Our third quarter results were within our guidance range, taking into account customer demand pushouts related to the larger macroeconomic environment that we referred to on our last earnings conference call.

Before reviewing our Q3 2023 financials in detail, I'll call out the highlights here on Slide 7. For the quarter, we reported revenue of USD $127.2 million with EPS of $0.00 bookings of USD $96.3 million and near record backlog and deferred revenue of USD $627.2 million. In a few moments, I'll provide Q4 guidance. Turning to Slide 8. Total Q3 revenue was down 18.3% year-over-year, mainly due to the factors I mentioned earlier. Looking at broadband, Q3 revenue was USD $75.8 million. The year-over-year decline was due largely to inventory adjustments by our broadband customers. I want to note that during the third quarter, we were in the initial ramp stage of another Tier 1 customer. We expect to see the benefit of this ramp in Q4 as reflected in our revised guidance.

In video, Q3 revenue was USD $51.4 million, while video appliance sales were lower due to the factors I noted earlier, video revenue included SaaS revenue of USD $12.5 million or 24% of segment revenue for the quarter, up 42% from the prior year. We continue to execute on the strategic transformation of our Video business with the continued growth of SaaS while also focusing on maximizing profitability in the appliance business. As Patrick mentioned, we are evaluating strategic alternatives for our Video business. To be clear, we still consider both broadband and Video SaaS to be high-growth areas. Based on that and after making a thorough assessment of our capital allocation priorities, we decided now is the right time to assess strategic alternatives for video as it continues its strategic shift to focus on SaaS. This decision was also made partly due to the indications of interest in our Video business from a number of parties over the past several months. Please note, no timetable has been established for the completion of the strategic review and the review may not result in any transaction. We do not intend to disclose further developments with respect to this review process unless and until our board approves a specific action or otherwise concludes the review.

Turning back to our third quarter results. We had one customer representing greater than 10% of total revenue during the quarter with Comcast representing 41% of total revenue. Total company gross margin was 49.5% for Q3 '23, reflecting decreased gross margins in both of our business segments sequentially. Broadband gross margin was 44.5% for Q3 '23, down 50 basis points year-over-year and above our guidance. Video segment gross margin was 56.9% in Q3 '23, reflecting macroeconomic headwinds and project delays noted earlier. Moving down the income statement on Slide 9. Q3 operating expenses were USD $62.9 million, down 6.4% sequentially and up 3.2% year-over-year. The sequential decrease reflects cost containment actions and R&D that is assigned to cost of sales for specific customer projects, partially offset by an increase due to a specific bad debt expense of USD $1 million.

Adjusted EBITDA for Q3 '23 was USD $3.5 million or 2.8% of revenue, comprised of USD $8.1 million from broadband and negative USD $4.6 million from video. Adjusted EBITDA for broadband came in above the high end of our expectations, while video was lower due to the factors noted earlier. This all translated into Q3 '23 EPS of USD $0.00 per share, in line with our previous guidance and compared with USD $0.12 in Q2 '23 and $0.13 per share for Q3 '22. We ended the third quarter of 2023 with a calculated diluted weighted average share count of USD $116.7 million compared to USD $119.3 million in Q2 '23 and USD $113.2 million in Q3 '22. The sequential decrease is primarily due to the decreased convertible debt dilution of 2.5 million shares.

Turning to the order book. Q3 bookings were USD $96.3 million. The book-to-bill ratio was 0.8% for the quarter. For Q2 '23 and Q3 '22, our book-to-bill ratios were 1.2 and 1.1, respectively. As we've stated previously, over time as supply chain conditions improve, we expect this ratio to normalize and approach the historical benchmark of greater than one. For Q3, we were below one after several quarters of being above one. Turning to the balance sheet on Slide 10. We ended Q3 '23 with cash of USD $75.6 million. The net USD $4.6 million sequential increase was due to a few factors. Cash from operations provided USD $11 million due predominantly to a decrease in both inventory and accounts receivable, offset by a decrease in other current liabilities. We also used USD $1.9 million in the purchase of fixed assets.

Also, in addition to cash of USD $75.6 million, at quarter end, we had short-term investments of term deposits of USD $6.3 million, together totaling USD $81.9 million. Turning to accounts receivable and days sales outstanding at the end of Q3 '23, DSO was 78% compared to 69 in Q2 '23 and 61 in the prior year period. As we mentioned on our last earnings call, one of our larger customers informed us that they will no longer take an early pay discount in Q3, which is reflected here. Days inventory on hand was 145 days at the end of Q3 '23 compared to 145 at the end of Q2 '23 and 116 at the end of Q3 '22. The inventory decline in the quarter was a result of lower in feed as we continue to tighten our supply chain.

Regarding capital allocation, our top priority remains driving our future growth. When appropriate, we will strategically invest in building inventory as we've done in the past to meet strong demand. We retain the flexibility to maintain somewhat lower inventory levels. This is reflected in our lower ending inventory balances for the third quarter.

Our forward capital allocation strategy also includes our 2024 convertible notes and in the stock repurchases under our stock repurchase program. As we said previously, the timing and amount of any stock repurchases will depend on a variety of factors, including the price of Harmonic's common stock, market conditions, corporate needs and regulatory requirements. At the end of Q3, total backlog and deferred revenue was USD $627.2 million. Our strong backlog reflects continued demand from our large broadband customers and growing video SaaS commitments. Just under 50% of our backlog and deferred revenue has customer request dates for shipments of products and for providing services within the next 12 months.

Lastly, we generated USD $9.1 million in free cash flow in the quarter. In summary, our Q3 results were within our expectations, the short-term macroeconomic headwinds while frustrating, have not impacted our market share. We continue to see strong demand for our market-leading technology solutions as customers recognize the value add that we bring to their businesses. Before reviewing guidance, I'd like to mention that given the strategic review process we announced today, we have decided to move our Analyst Day, which was previously planned for late 2023 to early next year. More information will be forthcoming once we have finalized those details. Let's now review our revised non-GAAP guidance for the fourth quarter, beginning on Slide 11. We expect broadband to deliver revenue between USD $105 million to USD $120 million, below our prior guidance at the midpoint.

Gross margins between 44% to 45% reflecting a similar product mix as in Q3, operating expenses between USD $29 million to USD $30 million and adjusted EBITDA between USD $19 million to USD $26 million. For broadband, we still expect to see a rebound in Q4 and the potential to hit a record quarter in revenue. Today's guidance and wider range reflects the current macroeconomic climate. For our video segment in Q4 on Slide 12, we expect revenue in the range of USD $45 million to USD $55 million, gross margin in the range of 59% to 60%, operating expenses in the range of USD $33 million to USD $35 million and adjusted EBITDA to range from a loss of USD $5 million to a loss of USD $1 million. For video, we are being conservative in providing a wider range on guidance given the ongoing strategic review and other factors I mentioned earlier.

Turning to Slide 13. For the fourth quarter of 2023, we expect total company revenue in the range of USD $150 million to USD $175 million, gross margin in the range of 48.5% to 49.7%, operating expenses to range from USD $62 million to USD $65 million, adjusted EBITDA to range from USD $14 million to USD $25 million, an effective tax rate of 20% and a weighted average diluted share count of approximately USD $117.1 million and EPS to range from a profit of USD $0.07 to USD $0.14 and cash to range from USD $80 million to USD $95 million. We will not go through the full year 2023 guidance here since we just discussed Q4 guidance in detail. For further details, please refer to our earnings release that was issued earlier today.

In summary, during the third quarter, we continued to execute on our long-term strategic plans. We believe our Broadband segment is well positioned for future growth. In addition, we made progress with the planned transformation of our video segment and shift to SaaS during the quarter even as we consider strategic alternatives to maximize shareholder value. Thank you, everyone, for your attention today. And now I'll turn it back to Patrick for final remarks before we open up the call for questions.

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

All right. Well, thank you, Walter. Let me just wrap it up by emphasizing your concluding thoughts there. Harmonic continues to be exceptionally well positioned to drive sustained growth and shareholder value creation. We're focused on these objectives and confidence in our ability to execute. And with that, we want to thank you for your continued support, and we will open it up for questions.

QUESTIONS AND ANSWERS

Operator

Thank you so much.(Operator Instructions) Our first question is from Simon Leopold with Raymond James.

Simon Matthew Leopold ***Raymond James & Associates, Inc., Research Division - Research Analyst***

I'd like to try to squeeze in two, if I may. The first one is on its conference call, Charter publicly talked about some potential changes in the timing of its rollout. And I think what they indicated was they may do some more of their rural build-outs ahead of some of the other upgrade activity. And I want to see if you can share any thoughts on what that might mean for Harmonic. And then my second question, and sorry, I'll get both in is basically for some of these upgrade initiatives require upgrades to amplifiers, but there are carriers that have deployed fiber deep that don't need amplifiers to be upgraded to deploy the DA nodes from somebody like Harmonic. And what I'm looking for from you is some sense of how much of the market can be upgraded fiber deep without waiting for the availability of the associated amplifiers. Hopefully, those two questions make sense, and you can answer them.

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

Yes. Okay. Thank you, Simon. First, regarding Charter, we don't have anything really specific to say beyond what they themselves said about their plans. What I would remind you and everyone else is that from the beginning, we've been asked questions about charter schedule, et cetera. And I think our position from the beginning has been to take a wait-and-see attitude. We've been through these onboarding ramp-ups with a number of large customers. I think we've seen a lot. So we've got a lot of experience, and we're bringing a lot of that experience to bear. We are -- neither surprise or unprepared for short-term changes in schedule. That being said, we've got our eyes on the prize, which is the big picture. I think if you compare this to where we were a year ago, we've secured the second largest operator on the planet, Charter. We are their partner going forward. They're going to do extensive work across their networks over the next several years. And we think we're going to be a prime beneficiary and enabler of that exciting work. And nothing we have heard from them or think it changes the big picture of the opportunity and the trajectory of that work there.

On the second question, it's a good question on DOCSIS 4. Indeed, what we've done on the core and the nodes is out ahead of what others have done on the so-called RF amplifier area, which is needed for, I would say, the majority of the DAA footprint. That being said, there is a significant to your question, and I can't give you an exact number, Simon. But there is a significant DAA opportunity where there is no amplifier technology needed. In fact, our estimation is I think the industry expects there to be RF amplifiers, let's say, roughly by a year from now, 5 quarters from now. And our view is that there is ample opportunity for investments for growth proactivity in DOCSIS 4.0 DAA that doesn't need amplifiers between now and then. So our -- that is our plan, to be involved in projects. And we think it mirrors some of our key customers' plans. We'll focus over the next year on DAA that doesn't involve amplifiers. And when the amplifier part technology is available, well, then the playing field will expand.

Operator

And it comes from the line of Ryan Koontz with Needham & Company.

Ryan Boyer Koontz ***Needham & Company, LLC, Research Division - MD & Senior Analyst***

I want to follow up on Simon's question about DOCSIS 4. And just at a high level, what your view is of DAA mix going forward? I mean, obviously, we're in the very early stages of deployments down. Can you kind of share any thoughts? There was a lot of bus at the C conference a couple of weeks back about this DOCSIS 3.1 kind of plus model to get higher speeds. And if you can kind of share any thoughts about the transition to DOCSIS 4 hardware that you have in mind over the next few quarters would be helpful. I have one follow-up, if you don't mind.

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

Yes. Look, let's -- thank you for the question. Let's separate two things. One, DAA, the architecture where you have centralized core, I think -- if you were at the show, you saw the industry is virtualized score. That's it. And then you've got distributed hardware at the edge devices. And we're going to see that as the predominant architecture going forward for DOCSIS 3.1 as well as DOCSIS 4.0 and as well as hybrid DOCSIS in fiber. And I think that, that more than ever before, it's clear that's the consensus of the industry and it's clear that Harmonic leads in that area.

Now what's the mix going to be, I think, is the essence of your question between 3.1, 4.0, maybe a hybrid, this what we call Booster of 3.1 core, taking advantage of some DOCSIS 4 modem technology, we're going to see a mix of all of the above. And it's hard to exactly forecast. But our â€" there's going too cruciate, I mean, we're giving our customers an amazingly powerful Swiss Army knife that really allows them to be flexible, to be reactive to competitive as well as customer demand opportunity. And you're going to see a mix of all of it, Ryan. And I think if you were there in Denver, you saw we're way out in front on DOCSIS 3.1 now on this hybrid boosted 3.1 stuff on 4.0 as well as the overlay of fiber on top of that. So what's the exact mix, I'm not sure, but the key thing is for us is getting the customers to go with the Harmonic platform, so they've got that optionality. And I think more than ever before, we're positioned to take advantage of this.

Ryan Boyer Koontz ***Needham & Company, LLC, Research Division - MD & Senior Analyst***

Yes. I mean, certainly, the software platform you guys have is a huge differentiator that can do all that. And a quick question on the video side. You talked about the growth in streaming SaaS and the headwinds in appliances. Are you seeing a direct cannibalization of the appliance business? Or are these two separate customer businesses going in different directions? And maybe you can give us some light on that side of the world?

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

Look, it's a great question. Basically, there's overlap. As we pieced apart and we had a record quarter for new SaaS ads. So as we dug into it, we found about it was about 50-50 new customers or kind of new business models. But the other half was actually historic appliance customers moving to a SaaS model. So the SaaS is -- transformation is partly responsible in this past quarter, let's say, 50% responsible for the weakness we saw in appliance. Now the other part is really no different than you're seeing across the broader carrier landscape but it's inventory, its cost of capital, et cetera. Maybe you'll leave a little bit more headwinds internationally. So it's both, Ryan or a mix of the two.

Operator

And it comes from the line of Steve Frankel with Rosenblatt.

Steven Bruce Frankel ***Rosenblatt Securities Inc., Research Division - Director of Research & Senior Research Analyst***

Patrick, back on 4.0, and there's been a lot of discussion about the Broadcom ship availability and how it's impacting the amplifier side. Is there a similar supply chain concern around 4.0 nodes? Or do you have visibility into the chip supply you need to get those 4.0 nodes into the market?

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

The high level, there's a lot of complexity there, a lot of moving parts, but the high-level answer is we're in good shape. We've got ex relationship with Broadcom that we're grateful for excellent alignment with our customers. And we think we're in good shape there.

Steven Bruce Frankel ***Rosenblatt Securities Inc., Research Division - Director of Research & Senior Research Analyst***

Okay. And then in terms of the new tier -- you've got a new Tier 1 that's ramping, that's great news. There's been this other group of Tier 1 that kind of have been stuck in neutral or first year. What can you do to get that group of customers accelerated and moving forward?

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

Well, we come out of this recent event in Denver, extremely encouraged exactly on that question. If you roll back 12 months ago, think about it, there was uncertainty about Remote PHY versus Remote MAC. There was all the stress about FDX versus ESD. A lot of uncertainty and confusion. We come out a year later -- we come out of set with those questions essentially being answered. It's Remote PHY on DOCSIS 4.0, it's a unified product. So I think things that were holding back to customers from having clarity on their plans have -- I mean, the fog is really clearing. And the substance the specificity of discussions we're now having with leading Tier 1 who have yet to get on board as well as Tier 2s. It's -- we're quite encouraged.

Now look, it doesn't mean we're going to be deploying with them next week. But as we look at the continued trajectory of this business, we're feeling that the industry and we, with our product and technology are in a very good place.

Steven Bruce Frankel ***Rosenblatt Securities Inc., Research Division - Director of Research & Senior Research Analyst***

Okay. And then one last one. Would you characterize what the book-to-bill looked like on the broadband side. We talked about the weakness in video, but what -- where were we on the broadband side in the quarter?

Walter F. Jankovic ***Harmonic Inc. - CFO***

Yes. Both of our businesses, Steve, its Walter here. We're below one in the quarter.

Operator

" For our next question, please. It comes from the line of Steve -- I'm sorry, George Notter with Jefferies.

George Charles Notter ***Jefferies LLC, Research Division - MD & Equity Research Analyst***

I guess, I wanted to ask about just the integration of CableOS into customer network. I think you referenced charter earlier. But I'm just wondering, I know there's some integration that has to be done to get a big MSO like that up and running on CableOS. I'm just curious on where you are in that integration process. Is it done? Is there more to do? What does the timing of that look like?

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

Indeed, CableOS is a change in a couple of dimensions. We're a new company than historic CMTS provider. And it's a different technology approach is software. It's cloud native. It's with amazing telemetry tools. A few or others were at the recent broadband event, you heard Comcast speak very publicly about the massive operational advantages they are driving now from the system. All of those come after a number of transformations on the back end, the CableOS is really at the core of. So yes, with every customer coming on board, there is integration work. There is training in terms of adopting of new tools and approaches. And we've seen, George, with different customers that process take varying amounts of time. And I can't give you a specific answer on where we are on charter, except to say that we're making good progress there as we are with other customers who are in the midst of onboarding. The question is, it is not one of it, but it's of exact timing. And we think we're making good progress with leading customers who are onboarding with CableOS -- cOS, excuse me at this time.

George Charles Notter ***Jefferies LLC, Research Division - MD & Equity Research Analyst***

Is there a sort of minimum and maximum that you guys have seen from your experience just in terms of the time it takes to integrate it? I guess, on one hand, I look at Comcast. It seems like it's like a number of years, certainly for Comcast or achieve sort of full velocity in terms of the deployment of the network there and maybe just other smaller customers that move much more quickly. But I guess I'm just wondering if there's kind of a range of timing that we should think about in terms of that integration process.

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

Well, you're right. If we go back to the very first and massive process with Comcast that took years for a variety of reasons, and it wasn't just a back office. There's a lot of learning, a lot of innovation all over the network that was happening at that time. Undoubtedly, times have improved dramatically since then. But we're still in the range of months or 2-year kind of a thing, depending on a lot of factors concerning the historic legacy network and the orientation and the priorities of the customer we're working with. We've seen deployments happen in less than 2 months, and we are involved with the processes that take closer to a year. And it's everything in between, although the median time is definitely shortening, George, as we all continue to gain more experience.

Operator

One moment for our last question, please. And come from the line of Timothy Savageaux with Northland Capital Markets.

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

A question about the overall topic would be gross margins on the broadband side. You're guiding to a pretty sharp increase and congrats on that and rebound in Q4 revenue in broadband. And I might have expected a pickup in gross margins there. If you look at the first half when you were kind of around the USD $100 million a quarter level, you're around 50% gross. So it does look like the mix is changing a bit. You mentioned a Tier 1 win ramping? Might that be more hardware heavy? So what sort of factors are affecting that guide not just relative to what you saw in Q3, but relative to what you saw in the first half? And then maybe more broadly, as you look at some of these bigger ramps, where do you think a reasonable expectation for broadband gross margins and mix to settle out?

Walter F. Jankovic ***Harmonic Inc. - CFO***

Tim, thanks for the question. It's Walter here. So just with regards to the gross margins for Q4, your inclination in terms of the product mix that we're seeing in Q4 specifically as we ramp up in initial stages of a Tier 1 is definitely impacting that margin in terms of it being more centric towards the notes. And so that's a big part of the gross margin guide that we've provided for Q4. And then more broadly, in terms of the question, as we look forward over a longer period of time, the product mix will shift as you get more ramp up and you get more into a steady state with certain customers, you'll have the mix between the nodes as well as the cOS and that will bring the margins to a higher level. And so when we've guided before in our prior comments, we said you kind of look at it over a 4-quarter rolling period, and that would give you a more representative view of what we should expect our margins to look like over the longer period...

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

Great. And my follow-up, it doesn't sound like you're expecting a big recovery with Comcast into Q4 and instead maybe this additional Tier 1 ramping well. First of all, is that a fair statement? And as you look at this strong Q4, do you think your concentration with Comcast will come down prior to -- obviously, we expect it to come down with Charter ramping in '24, but just talking about Q4 '23 by itself.

Walter F. Jankovic ***Harmonic Inc. - CFO***

Yes. Just, Tim, on Q4 '23 specifically, very similar to what we mentioned back a quarter ago, our expectations in Q4 and continue to be in our guide for Q4 is a ramp-up of another Tier 1. So that, by nature, will reduce concentration across the largest customer in terms of the percent concentration. And so -- and we expect that concentration will continue to move in a direction of less concentration as we bring on more customers, including the Tier 1 as well as other customers as we move on through 2024.

Operator

And this concludes the Q-and-answer period. I will turn the call over to Patrick Harshman for final comments.

Patrick J. Harshman ***Harmonic Inc. - President, CEO & Director***

Okay. Well, thank you all again for joining us today. We appreciate the dialogue and your support. We remain focused on driving the growth objectives that we've discussed here today and creating shareholder value. We look forward to our next opportunity to speak with you. Good day...

Operator

Thank you, ladies and gentlemen. With that, we thank you for your participation, and you may now disconnect.