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POWI.OQ - Q4 2022 Power Integrations Inc Earnings Call

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CORPORATE PARTICIPANTS

Balu Balakrishnan Power Integrations, Inc. - President, CEO & Director

Joe Shiffler Power Integrations, Inc. - Director of IR & Corporate Communications

Sandeep Nayyar Power Integrations, Inc. - CFO & VP of Finance

CONFERENCE CALL PARTICIPANTS

Auguste Philip Richard Northland Capital Markets, Research Division - MD & Senior Research Analyst

Christopher Adam Jackson Rolland Susquehanna Financial Group, LLLP, Research Division - Senior Analyst

David Neil Williams The Benchmark Company, LLC, Research Division - Senior Equity Analyst

Ethan Jeremy Potasnick Cowen and Company, LLC, Research Division - Research Associate

Ross Clark Seymore Deutsche Bank AG, Research Division - MD

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

PRESENTATION

Operator

Good day, everyone, and welcome to the Power Integrations' Fourth Quarter Earnings Call. Today's call is being recorded. (Operator Instructions) I would now like to turn the conference over to Joe Shiffler, Director of Investor Relations. Please go ahead, sir.

Joe Shiffler - Power Integrations, Inc. - Director of IR & Corporate Communications

Thank you, Lisa. Good afternoon, everyone. Thanks for joining us. With me on the call today are Balu Balakrishnan, President and CEO of Power Integrations; and Sandeep Nayyar, our Chief Financial Officer. During this call, we will refer to financial measures not calculated according to GAAP; non-GAAP measures for the December quarter excludes stock-based compensation expenses; amortization of acquisition-related intangible assets and the tax effects of these items.

A reconciliation of non-GAAP measures to our GAAP results is included in today's press release. Our discussion today, including the Q&A session, will include forward-looking statements denoted by words like will, would, believe, should, expect, outlook, plan, forecast, anticipate, prospects and similar expressions that look toward future events or performance.

Such statements are subject to risks and uncertainties that may cause actual results to differ materially from those projected or implied. Such risks and uncertainties are discussed in today's press release and in our most recent Form 10-K filed with the SEC on February 7 of last year. Finally, this call is the property of Power Integrations and any recording or rebroadcast is expressly prohibited without the written consent of Power Integrations. Now I'll turn the call over to Balu.

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

Thanks, Joe, and good afternoon. Fourth quarter revenues were \$125 million, in line with our guidance and down 22% sequentially, reflecting the downturn in the semiconductor industry. We expect a further sequential decline in the March quarter as end demand continues to be soft and distribution inventories remain elevated. For those less familiar with our history, we are typically among the first semiconductor companies to see a downturn because our products are used in power supplies, which are often built in advance of end products.

This dynamic can also result in larger cyclical fluctuations than our peers because many of our customers are suppliers to OEMs, creating an additional layer of inventory between us and the end market. Of course, these dynamics apply to both ends of the cycle. And while we tend to underperform our peers at the front end of a down cycle, we tend to outperform on the other side.

For example, we underperformed the analog industry in 2018, as we were early into the down cycle felt across the industry the following year. We went on to outperform analog by a wide margin not only in 2019, but in each of the next 2 years as well. We are now into our third quarter of sequentially lower revenues, and channel inventories are declining after peaking in the September quarter.

While the slope of the recovery will, of course, depend on the strength of the end market demand, we do expect revenues to bottom in the March quarter, followed by a sequential growth in the June quarter. Looking at the fourth quarter from an end market perspective, appliances, which dominate the consumer category, have weakened considerably in recent months, driven by the softer housing market, inflation and the overstimulation of demand for appliances during the pandemic.

Sell-through for the consumer category in the fourth quarter was down about 40% year-over-year, affecting all subcategories, including major and small appliances and air conditioners. Despite the short-term headwinds, we remain as bullish as ever on the opportunity in appliances, where we have gained significant share over the past couple of years. Dollar content continues to rise, driven by increased penetration of features like WiFi connectivity, the adoption of GaN products and the ongoing transition to brushless DC motors, which we are addressing with our BridgeSwitch products.

In the industrial category, reported revenues were down more than 25% sequentially, reflecting elevated channel inventories, while sell-through fell by only about 10%. Broad-based industrial applications are down significantly, but we are seeing offsetting strength in home and building automation and high power, particularly in renewable energy and energy exploration. In the communications category, dominated by smartphone chargers, sell-through has stabilized and channel inventories are approaching normal levels, suggesting that end customer inventory has improved significantly.

Revenues for communications were up double digits in Q4 compared to Q3. And while we expect Q1 to be seasonally lower, we do anticipate sequential improvement in the June quarter. Having said all this, we are looking past the short-term macro and cyclical gyrations and staying focused on the long term and profitability – long-term growth and profitability.

The fundamentals of the business are strong, and we continue to gain share across a broad range of end markets and geographies such as Japan and India, where our combined revenues grew more than 30% last year. Most importantly, we are executing on the opportunities we laid out in our recent Analyst Day, including our plan to double our SAM over the next several years.

We will do so by expanding our portfolio of GaN products to address a wider range of applications while growing our presence in brushless DC motors and EVs, each of which we expect to be a \$1 billion opportunity by 2027. Our high-power products are winning in renewable energy, power grid and industrial motor applications, and we have new gate driver products in the pipeline that will strengthen our long-term competitive position in high power.

We also continue to press our advantage in energy efficiency, helping customers meet tighter specs like those implemented recently in China for air conditioners and India for ceiling fans. In fact, several of our largest design wins in Q4 were for air conditioning customers in China, while a major Indian customer is now among the largest users of our BridgeSwitch motor drive products.

In all, BridgeSwitch is now in production with more than a dozen customers, and we expect that number to grow significantly after tripling the size of our design funnel in 2022. We also tripled our opportunity pipeline last year in the EV market, where our silicon carbide InnoSwitch products are an exceptional fit for power supplies in electric passenger cars and commercial vehicles.

As EV architectures evolve, customers are increasingly using the main battery voltage for subsystems that today are still powered by standard 12-volt batteries. This trend is creating new sockets for InnoSwitch and our other automotive qualified power conversion chips which are superior to discrete solutions in terms of reliability, efficiency and footprint. We won 5 new automotive designs in Q4 and now have more than 3 dozen

designs in production at about 15 end customers. Both of these figures are on track to rise significantly with as many as 20 new programs already scheduled to enter production this year and many more in the pipeline.

Our high-power business rebounded nicely in 2022 from the pandemic-induced slowdown of the prior 2 years, growing more than 20% and contributing to high-teens growth in our industrial category. We expect strong growth again in 2023, driven primarily by renewable energy and power grid projects. In summary, the fundamentals of our business are sound, the opportunities in front of us are as exciting as ever, and we continue to invest for long-term growth.

We also continue to return cash to stockholders through a combination of price-conscious buyback as well as dividends. As noted in the press release today, our board has increased the quarterly dividend by 6%, beginning with the March payout. Before I turn it over to Sandeep, I'd like to highlight two very welcome additions to our board of directors, starting with Nancy Gioia, who joined the board on January 1. Nancy had a distinguished career in the automotive industry, comprising 33 years of service at Ford Motor Company, including executive roles in product development, manufacturing, strategy and planning. She has extensive experience in the EV space having served in the later part of her career as Ford's Director of Global Electrification, and she currently serves on the Board of Lucid Group, a leading EV manufacturer.

Joining our board on April 1 will be Ravi Vig, who was CEO of Allegro MicroSystems until last year, concluding a 38-year career at Allegro and its parent company, Sanken North America. In addition to leading their IPO several years ago, Ravi helped Allegro navigate the transition to the EV market after decades supplying sensor and power chips for internal combustion vehicles.

In seeking out these highly accomplished automotive executives, one from the industry and one from the semiconductor side, we are underscoring our commitment to the EV market and adding highly relevant expertise to support our efforts. Just as importantly, I believe their willingness to join us in this effort says a lot about the attractiveness of the EV opportunity for Power Integrations.

Finally, I will note that in December, we received Great Place to Work Certification following an anonymous survey in which 82% of our employees stated that Power Integrations is a great place to work. That is 25 points higher than the average U.S. company. I believe this award reflects our culture of innovation, the consistency and focus of our strategy. The fact that our products contribute to the health of our planet and that we value employees regardless of semiconductor cycles and macroeconomic turbulence. And with that, I'll turn it over to Sandeep for a review of the financials.

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

Thanks, Balu, and good afternoon. I will start by reiterating what I said on the last quarter call, which is that we are well positioned to weather the current downturn thanks to our balance sheet and our lean expense structure. While we are taking prudent steps to moderate spending and production levels, we will not deviate from the long-term focus that was an important theme of our recent Analyst Day. That includes looking beyond the downturn and continuing to invest in people and products as well as maintaining production capacity to be ready for an upturn in demand.

While internal inventories are above our target, this is consistent with how we have managed through past downturns, an approach that has served us well throughout our history. Our products are largely fungible across customers and end markets and have minimal obsolescence risk, especially when kept in wafer form.

We also continue to hire around the world, while working hard to develop and retain current employees. This includes normal salary increases despite the economic downturn and continuing to pay an above-average portion of the cost of benefits despite rapidly rising insurance rates.

I will now discuss the Q4 numbers and the outlook before we begin the Q&A session. Revenues for the quarter were \$125 million in the middle of our guidance range and down 22% from the prior quarter. The consumer category, which is dominated by appliances, was down more than 30% with weakness across all categories of appliances. While domestic demand in China continues to be soft, the slowdown in appliances has broadened geographically. The industrial category was down more than 25% sequentially, primarily reflecting elevated channel inventories.

As Balu noted, sell-through was lower by only 10% sequentially in the industrial category. Computer revenues fell by a high-teens percentage sequentially, reflecting ongoing softness in that end market. Revenues from the communications category, which is dominated by smartphone chargers, increased sequentially by a low-teens percentage off the low prior quarter low level. While smartphone demand continues to be weak, channel inventory has fallen to near-normal levels, indicating that end customer inventories are healthier than they have been in some time.

Overall, channel inventory stood at 13.5 weeks at quarter end, down just slightly from the prior quarter, though the decrease was more significant in dollar terms, with sell-through exceeding sell-in by about \$8 million. Revenue mix for the fourth quarter was 39% Industrial, 26% Consumer, 23% communication and 12% computer. Collectively, the communication and computer markets increased by 8 percentage points from the prior quarter, a less favorable mix than we anticipated, resulting in lower-than-expected gross margins.

Specifically, non-GAAP gross margin was 54.7% compared to our guide of 56% to 56.5%. Relative to the prior quarter, gross margin was down about 3 percentage points, driven primarily by mix and the impact of lower production volumes. Non-GAAP operating expenses for the quarter were \$40.2 million, down slightly from the prior quarter and about \$2 million below our guidance, primarily reflecting the timing of headcount additions and other spending.

Non-GAAP operating margin for the quarter was 22.5% and non-GAAP earnings were \$0.48 per diluted share. The non-GAAP effective tax rate for the quarter was 3.3%, reflecting a catch-up to bring our full year tax rate to 8.2%. Weighted average diluted share count for the quarter was 57.5 million, down about 100,000 from the prior quarter. We utilized \$19 million for repurchases during the quarter, buying back 266,000 shares at an average price of just over \$70.

We had \$81 million remaining on our authorization entering the March quarter. Cash flow from operations for the quarter was \$24 million. We used \$6 million during the quarter for CapEx and paid out over \$10 million in dividends. As Balu noted, our board has increased the quarterly dividend to \$0.19 per share, an increase of 6%. For all of 2022, we returned \$353 million to stockholders through buybacks and dividends. That's about 2/3 of the cash and investments we had at the start of the year and about 200% of last year's free cash flow.

Nevertheless, our balance sheet remains extremely strong with \$354 million in cash and investments at year-end. Inventories on the balance sheet rose to 215 days at quarter end. As noted earlier, the nature of our products allows us to build wafer inventory during downturns to ensure continued access to foundry capacity and to be ready in the event of a sudden recovery in demand.

I expect inventory days to peak in the March quarter and then to taper down gradually through the remainder of the year. Turning to the outlook. We expect revenues for the March quarter to be \$105 million, plus or minus \$5 million. We expect sell-through to once again be meaningfully higher than reported revenues as channel inventories continue to come down.

I expect non-GAAP gross margin for Q1 to be approximately 53.5% with the sequential decrease driven again by lower back-end manufacturing volumes and a less favorable end-market mix. Gross margin should rebound after the March quarter as volume and mix-related headwinds abate, and we realize the benefit of the weaker yen that prevailed in the second half of 2022. For the full year, non-GAAP gross margin should be around the high end of our target range of 50% to 55%. Non-GAAP operating expenses for the first quarter should be between \$42 million and \$42.5 million, up from the fourth quarter, reflecting our hiring plans as well as the resumption of FICA taxes and the comparative impact of the year-end shutdown in the prior quarter.

I expect non-GAAP effective tax rate for March quarter and for the year to be between 8.5% and 9%. And now, operator, let's begin the Q&A.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) We'll take our first question from Ross Seymore with Deutsche Bank.

Ross Clark Seymore - Deutsche Bank AG, Research Division - MD

Just wanted to see, during the course of the fourth quarter and heading into the first quarter, you guys had thought a quarter ago that the March quarter might be flattish sequentially. Obviously, that didn't happen. Is it just that the demand weakened. It sounds like the channel inventory directionally headed like you expected, but just wanted to get some of the puts and takes that's causing the weakness in March?

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

It's definitely the demand weakening more than we thought, especially in the consumer space. That is our -- which is mainly appliances. We thought that would -- we never expected it to go down as far as it did, and it clearly reflects not only slowdown in demand, but also inventory in our channel and at the OEM. I think they were surprised, as surprised as we are in terms of the sudden reduction in demand.

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

And Ross, we started seeing this after the earnings call, somewhere in November time frame and December, and we attended a couple of conferences. And there, we actually publicly did indicate that we expect that March to be the quarter where it will be lower than Q4 and that will be probably where we'll bottom out before we start moving upward again.

Ross Clark Seymore - Deutsche Bank AG, Research Division - MD

I guess as my follow-up, you talked and this will kind of be a revenue and a gross margin question, but you talked about the mix headwinds in the quarter and the guide and then talked about those lessening than the kind of the shape of the upturn coming out the other side. What are the mix dynamics that you expect to normalize if you talk by segment within the March quarter? And the gross margin side of things, how do you expect the linearity of that to work for the year? As I know, Sandeep, you said it would be close to the high end of your 50% to 55% range as the year progresses?

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

Correct. So if you look at it, even in Q4, even though the consumer came in weaker, we were able to kind of makeup that by the cell phone and computer being a little better. And that's why you saw we came in at like 23% was the communication in Q4.

We expect communications to be still strong even though every category will decline in Q1. But as a percentage, communication and computer will remain healthier and the decline is more in the consumer and industrial side a little bit. And as a result, we are giving the guidance. Plus the volumes are lower, which is really having an impact for us.

And as the year progresses, we will start seeing the benefit of yen. And basically, the volumes, the headwind that we had will start going away. If you remember, the yen had really moved very well in the back half of 2022, which will -- because of the inventory, starts flowing in Q2 and Q3. And now you know the dollar is weakening. And so the reversal was actually go the other direction in Q1 of 2024. So if you look at the rest of the year, I think after the first quarter, we will start moving towards the 55% give and take for the rest of each of the quarters. And if you look a little long term, I had talked about on the Analyst Day that even though we are moving on the higher end towards the mix, -- but I had talked about that my gross margin would remain on the higher end of the model and primarily was because I was anticipating the yen to start moving back and it's exactly what's happening.

Operator

We'll take our next question from Tore Svanberg with Stifel.

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

Yes. Let me start with the internal inventories, Sandeep. So I think 215, that's probably the highest number I've seen from POWI. And I think I do understand why. But what I wanted to sort of get more color on is, how much of that is cyclical, meaning you obviously buy -- I mean, you build inventory during the downturn because of the shelf life. But how much of that was also opportunistically taking advantage of the Japanese yen?

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

Well, we weren't trying to just time the Japanese here, I'll be honest. I think it's more looking at the planning and working with our foundry partners. This is really a partnership, and we have to look at the economics on their end too. But I think if you really look in dollar terms, it has gone to about \$135 million. Even if you look in Q1, looking ahead, the days will peak, but the dollar value probably from this \$135 million is not going to move more than \$4 million to \$5 million. And I think what's going to happen is as we come back in the second half, I expect the days to start tapering down each quarter in Q3 and Q4, though even in Q4, it will be above our model because if you looked already historically, as we had talked about in 2018, when we were out of sync with the analog, we always see the downturn first. And when we come back, we come back always strong.

So if we believe -- and I think I've talked about that the second half being stronger part, we have got, hopefully, the pull-in of demand on the consumer side and appliances, anniversaring in Q2 because if you said you had a pull-in of demand of a year. I really think if we believe the second half which we do, it should bode very well for 2024. And that's why we very feel very good at keeping the inventory where we are because historically, it has really helped us in the long run when the rebound happens.

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

Fair enough. And moving on to the sell-in versus sell-through. And obviously, I understand what you're trying to do there, get the channel inventory down and so on and so forth, that's fair. But when I look at the Q1 guidance, that's a \$105 million, that's sort of back to early 2020. So I mean, is it fair to say that you are going to be under shipping pretty materially to end demand in Q1?

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

Yes. I expect -- if you just think about it last year, from Q1 to Q3, we probably sell-through disconnect was around \$32 million. So if you look at what happened in Q4, sell-through was higher than sell-in by about \$8 million. I expect in Q1, at least a \$15 million give and take, where sell-through will be higher than the sell-in. And then the balance will kind of adjust by Q2. And that's why the second half story.

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

That's very helpful. Just one last one for Balu. Balu, obviously, with the percentage coming down with some of the other segments, automotive now, I think, has a real chance to shine, right? Because I mean, obviously, you're seeing growth there. Is it possible that automotive could become 10% of your revenues either this year or next year? Is that a possibility?

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

No, not, it is a much slower market to develop. I would say that it will grow very nicely. We are expecting it to go from low single-digit millions last year to mid-single-digit millions, and it will continue to grow. But the real growth will come really in 2026 onwards because some of the designs will take much longer to develop. But where we will come back very strongly, I believe, is in all other areas, especially consumer and industrial. In consumer, the one thing I want to point out is we are continuing to gain share significantly. It's just not showing up because of the inventories in

the channel and the weakness in the market. And there will be a time when people will start buying appliances. Certainly, they bought too much during the pandemic and the general weakness across the world has hurt us -- has hurt a lot of people, not just us.

But it looks like the GDP growth in China and worldwide is going to be better than everybody anticipated. If you look at what the IMF is saying right now. So we are optimistic that, that will come back. More importantly, our share gains, you know that we are gaining share across many competitors in appliances. And on top of that, we are making a huge penetration with our BLDC motor chips, the BridgeSwitch. The combination of those 2 should really give us a springboard to get back in the appliances. And in the industrial space, the high power is doing very well. The home and building automation is doing extremely well. So I'm also very optimistic. Computer, we have a lot more share to grow into the notebook market. And even in cell phones, even though at the moment, there is a kind of a lull because not only of the weakness in demand, but also because some of the Chinese companies have moved to lower-end chargers, simply because that's what happens when the demand is low, they focus on cost.

Having said that, the same companies are working on some really high-power charges, which tells me that it is temporary and they'll come back to higher power and higher performance type of products. So I think we have a lot of growth ahead of us. I mean I'm completely overlooking what's going on right now because it doesn't really reflect our long-term capability. I mean all of the shares wins will eventually turn into growth.

Operator

We'll take our next question from David Williams with the Benchmark Company.

David Neil Williams - The Benchmark Company, LLC, Research Division - Senior Equity Analyst

I guess just kind of from a high level, Balu, can you talk about where you are seeing areas of strength today, maybe areas that are a little stronger than you would have expected? What are the, I guess, the biggest bright spots that you see in the market currently?

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

Currently, we are seeing a strong growth in home and building automation, the high-power products. These are renewables like solar and wind and power grid products like high-voltage DC transmission and also traction. Traction refers to electric locomotives.

Now we are also seeing very strong activity in EVs, electric vehicles and also in appliances, but they won't turn into revenue overnight. We'll have to -- they have longer design cycles especially EVs.

But having said that, we have already gained significant share in the consumer market. And so when the inventory is depleted, we should see a rebound and also, it's been, as Sandeep mentioned, it means almost a year since the pandemic-driven demand for appliances has really overstimulated that area, and that should eventually come back to some normal consumption, and we are looking forward to that as well. I don't know the exact timing but I feel very good about those 2 markets. And then in computers, we are making inroads into notebooks and monitors. That should help us grow. As you can see, that's become at least for now 12% of our revenue, but it has been growing consistently from 5% over the last 3 years. And I think that also will be a growth area. Now cell phones, I think, we will hold our own. The market itself has softened because people are not replenishing the phones as much. But we are seeing that market going more towards higher end, which will benefit us in terms of ASP.

David Neil Williams - The Benchmark Company, LLC, Research Division - Senior Equity Analyst

Okay. Fantastic. And then maybe any thoughts on the channel inventories that are out there in terms of what level they're looking to burn those down to. Is this -- do you think it's back towards normal levels that we saw pre-pandemic? Or do you sense that maybe they're trying to get down to maybe a higher level than we were previously. Just trying to understand how much inventory and channel inventory we burned out completely?

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

Yes. So if you really look at it, I would say we typically run channel inventory 8 weeks for us. Now if you look at it from an end market standpoint, the Communications segment, channel inventory seems to be coming at give and take around that level, which is reflecting that the OEMs have kind of burned the inventory. And that's why if you remember some time back, we said that will be the first market to come back. Now the other areas are definitely elevated, and that's what I think will get normalized in Q1 and part of Q2. And that's why we start feeling very good about what will happen. If you look what happened in Q4, especially in the appliance area and air conditioning, Q4 typically tends to be a quarter when after Q3 things started ramping, while in fact, we had a significant decline, which leads us to believe that they are clearing out their inventory. And as they do that between Q4 and Q1, I think Q2 will start looking better for us.

And then typically, as whenever this happens, and we look -- whenever we come out of a downturn, we come out stronger. And if you look historically, if the second half bodes well as we are expecting it to, it will actually position us very, very well for 2024. And if you look at what happened in 2018, after 2018, when we saw the downturn first is exactly what happened, very similar to what we are expecting this time.

Operator

We'll take our next question from Christopher Rolland with Susquehanna.

Christopher Adam Jackson Rolland - Susquehanna Financial Group, LLLP, Research Division - Senior Analyst

So I assume we should assume all segments down next quarter or perhaps you can give us some color as to force ranking them? It sounds like consumer might be the main culprit here. But I think that would be incredibly helpful. And then -- would you also expect all segments to be down year-over-year in '23 as well? Or do you think there's a chance one of those could be up?

Sandeep Nayyar - Power Integrations, Inc.

I think in Q1, basically, Industrial and consumer will be down more than the other 2. But as a result, the percentage of revenue what we are guiding to, you should see that communication and computer as a percentage of revenue will hold, which is why the mix we talked about.

As far as for the year, I would say you should see more downturn on a full basis in the consumer and industrial, and that's why I talked about a little bit of a mix headwind compared to the communication and computer segment.

Balu Balakrishnan - Power Integrations, Inc.

Yes, that's simply because it corrected at first.

Christopher Adam Jackson Rolland - Susquehanna Financial Group, LLLP, Research Division - Senior Analyst

Yes, exactly. And I would say at this point, with revenue expected to be down, I think, 40-plus percent into March. This has all hit you guys a little harder than others, at least thus far. So I kind of wanted to put all the pieces together there.

I know for communications, for example, you guys typically see it first. But what else is going on here in your opinion? Was there a greater than normal inventory build because you guys had availability of parts when others didn't. So people built? Or is it just the cyclical of the end markets? If you were kind of to do a postmortem on why the drop was so much more significant than others? What are all the kind of main culprits you could point to?

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

That's a very good question. And there are several reasons why it's hitting us harder. The first one is we always see the downturn before other people do. We talked about that. And also because we have one more layer of inventory, that is we sell primarily to power supply manufacturers who then sell it to the OEM. So we get -- our gyrations are much bigger, if you will. The other one is if you look at 2/3 of our revenue at the beginning of the year, were from smartphone, PCs and appliances.

And those areas have been hit much harder than areas like automotive, where we have, at this point, very little exposure. Hopefully, that will change over time. But -- so it has differentially hurt us more than other analog peers who most of them have very good exposure to automotive market. And the other thing is we did not implement a noncancelable, nonreturnable orders, or long-term agreements that many of our peers have done. And because we do value pricing, we didn't have as much increase in prices as most of our large peers.

In fact, if you look at the growth in 2022, a large portion of the growth was simply change in ASP. So you have to keep that in mind when you compare. And of course, the positive side of that is that we will recover first. And so I think we'll outperform the market when we recover. And if you go back to 2018, you can see the similarities. The second half was down for us in 2018, and we saw that before anybody else did. So we were down 4% in 2018, and the industry was up 11% that year. But the next 3 years, we significantly outperformed the industry because we came out faster and that allowed us -- and also we gained a lot of share during the downturn. So every downturn is an opportunity for us to gain share because we always invest for the future. In fact, we invest into the downturn. So that's why I try to not pay too much attention to the macro because I don't control the macro, but I pay attention to how much share gains we're getting. So those are the differences why we have seen a much larger change than our peers. Hopefully, that's helpful.

Operator

We'll take our next question from Matt Ramsay with Cowen and Company.

Ethan Jeremy Potasnick - Cowen and Company, LLC, Research Division - Research Associate

This is actually Ethan Potasnick on for Matt. I know there have been a bunch of questions regarding inventory in the channel. But I kind of want to ask a similar question a little differently. I was wondering if you guys had any sense of what you are under shipping and when you anticipate selling to true demand? And any expectations of what the shape of the recovery might look like as kind of see just rolling correction across segments kind of flows through?

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

Okay. We have definitely under-shipped to the cellphone market until now, but it looks like the inventories are normalizing there, getting close to normal, at least at the disti level, it's already normalized, we think that's because our OEMs also have brought down the inventory.

But in consumer, the demand slowdown came so quickly our customers were surprised how quickly that happens. So they are stuck with inventory at various levels at our distributors at ODMs and then, of course, at the OEM and also at the retail level. And that's what is painful at this point because the consumer is down so much. But it will come back. The question is when will those inventories normalize. Our best bet is sometime in Q2, it will normalize, so it will benefit us in the second half. We do expect Q2 to be better than Q1, but the second half and, of course, 2024 is where we will see the significant growth.

In terms of industrial, the broad-based industrial, clearly, that is over inventory, and there is a slowdown in -- across the board. It's not as bad as consumer, but there is over inventory. And because of that, you can see industrial is down and there is inventory buildup at the distribution. The good news is the sell-through was only down 10% versus our sell-in. So that is also improving as we speak. So that's why we've been comfortable saying Q1 is where the bottom is likely to be.

Ethan Jeremy Potasnick - Cowen and Company, LLC, Research Division - Research Associate

Okay. Got it. Got it. And then as my follow-up, how should we think about the GaN outlook for 2023? What types of penetration rates are you guys seeing, I guess, pre and post kind of this inventory correction?

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

Yes. We think we'll grow GaN very nicely in 2023. In 2022, we didn't grow as much as we thought primarily because most of our designs, GaN designs were in smartphone chargers. And obviously, that market didn't do very well. In spite of that, we grew some, we grew marginally. But in 2023, the design wins have expanded to many other areas, including consumer and industrial and, of course, computer. As a result, we expect to see a significant growth in GaN going forward.

Operator

(Operator Instructions) Our next question comes from Auguste Richard with Northland.

Auguste Philip Richard - Northland Capital Markets, Research Division - MD & Senior Research Analyst

Yes. Just looking back at '21, you had very strong growth. Could you parse out how much of that was units versus ASP? Typically, you guys have 5% ASP decline annually. And I'm just wondering what that -- also what that looks like today?

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

So in 2021, unlike many of our peers, we didn't do significant price increases. Obviously, to the extent we are pricing our products at value, there is a benefit to that. And we did benefit somewhat from that, but nothing like our peers. I don't know the exact numbers, but as we said, we base it on the product -- so the components we replace.

So I couldn't tell you the exact number. But all I can say is it's far less than most of our peers who did a very, very strong increase in price.

Auguste Philip Richard - Northland Capital Markets, Research Division - MD & Senior Research Analyst

And how is pricing today? Or are you reverting back to historic norms and normal price decreases? Or how is that going, given the weakness in demand?

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

Well, I think the pricing will normalize this year. You have to understand that for 2 years, we didn't have to give any annual price reduction. So in some ways, that helped us quite a bit. But going forward, I think things will normalize because supply situation is getting better.

Sandeep Nayar - Power Integrations, Inc. - CFO & VP of Finance

But one thing does the input costs still have a very significant upward pressure, especially in the front end. So I think that's the tension that is going on right now, and we do value pricing. So depending on how we see the value pricing, we will stay competitive. But I think the input costs are still having pricing pressure.

Balu Balakrishnan - Power Integrations, Inc. - President, CEO & Director

Yes, that will prevent the market, not just us from lowering prices very much because input costs are continuing to go up.

Auguste Philip Richard - Northland Capital Markets, Research Division - MD & Senior Research Analyst

Got it. And then just last one for me. When you think about '22, in consumer, how much of that business is appliances?

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

I mean, appliances is 85%, 90%...

Auguste Philip Richard - Northland Capital Markets, Research Division - MD & Senior Research Analyst

Consumer?

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

Consumer, yes. That is broken into major, comfort and small, 3 buckets.

Operator

And we have a follow-up question from Tore Svanberg with Stifel.

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

Yes. Sandeep, I was hoping you could just help me a little bit with the math here. So I'm just looking at revenue growth since 2019. And by adjusting for that \$65 million that you called out, kind of excess channel inventory, I mean, it looks like the revenue will be growing about 12% a year. It's kind of interesting. If you do adjust for that \$65 million, it's almost exactly 12% a year. So I mean, is that kind of how we should just look at the business going forward? I know that your long-term target is obviously within that range. But -- it's so interesting -- yes, go ahead.

Sandeep Nayyar - Power Integrations, Inc. - CFO & VP of Finance

It's a great observation. Low double-digit growth is the model. But whenever these gyrations happen, you know we have -- unfortunately, whenever the downturn comes, it seems to happen in the middle of the year, and it affects 2 years of growth. But if you look what happens, so we -- for 2 years, we'll be really bad in growth, then we will do couple of years better than our model. But if you look on the long term, we come pretty close to the double-digit growth.

Operator

And that concludes the question-and-answer session. I would like to turn the call back over to Joe Shiffler for any additional or closing remarks.

Joe Shiffler - Power Integrations, Inc. - Director of IR& Corporate Communications

All right. We'll leave it there. Thanks, everyone, for listening. There will be a replay of this call available on our investor website, investors.power.com. Thanks again, and good afternoon.

Operator

And that concludes today's presentation. Thank you for your participation, and you may now disconnect.

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