Q1 2021 Earnings Call

Company Participants

- Akash Palkhiwala, Executive Vice President and Chief Financial Officer
- Alexander H. Rogers, Executive Vice President and President, Qualcomm Technology Licensing
- Cristiano R. Amon, President and Chief Executive Officer-Elect
- Mauricio Lopez-Hodoyan, Vice President of Investor Relations
- Steve Mollenkopf, Chief Executive Officer

Other Participants

- Blayne Curtis, Analyst
- Brett Simpson, Analyst
- C.J. Muse, Analyst
- Chris Caso, Analyst
- Joseph Moore, Analyst
- Matt Ramsay, Analyst
- Michael Walkley, Analyst
- Mitch Steves, Analyst
- Ross Seymore, Analyst
- Samik Chatterjee, Analyst
- Stacy Rasgon, Analyst
- Tal Liani, Analyst
- Timothy Arcuri, Analyst

Presentation

Operator

Ladies and gentlemen, thank you for standing by. Welcome to the Qualcomm First Quarter and Fiscal 2021 Earnings Conference Call. At this time, all participants are in a listen-only mode. Later we will conduct a question-and-answer session. (Operator Instructions) As a reminder, this conference is being recorded February 3, 2021. The playback number for today's call is (877) 660-6853. International callers, please dial (201) 612-7415. The playback reservation number is 13714808.

I would now like to turn the call over to Mauricio Lopez-Hodoyan, Vice President of Investor Relations. Mr. Lopez-Hodoyan. Please go ahead.

Mauricio Lopez-Hodoyan {BIO 20932685 <GO>}

Thank you and good afternoon everyone. Today's call will include prepared remarks by Steve Mollenkopf and Akash Palkhiwala. In addition, Cristiano Amon, Alex Rogers and Don Rosenberg will join the question and answer session. You can access our earnings release and a slide presentation that accompany this call on our Investor Relations website. In addition, this call is being webcast on qualcomm.com and the replay will be available on our website later today.

During the call today, we will use non-GAAP financial measures as defined in Regulation G and you can find the related reconciliations to GAAP on our website. We will also make forward-looking statements including projections and estimates of future events, business or industry trends or business or financial results. Actual events or results could differ materially from those projected in our forward-looking statements. Please refer to our SEC filings, including our most recent 10-K which contain important factors that could cause actual results to differ materially from the forward-looking statements.

And now to comments from Qualcomm's Chief Executive Officer, Steve Mollenkopf.

Steve Mollenkopf {BIO 16172191 <GO>}

Thank you Mauricio and good afternoon everyone. Fiscal 2021 is off to a great start with record first quarter non-GAAP revenues of $8.2 billion, up 63% year-over-year and record non-GAAP earnings of $2.17 per share, more than doubling from the prior year. The simultaneous global adoption of 5G combined with increasingly complex technical requirements and a pace of change that is accelerating drives a significant multi-year industry transition that plays to our strength. QCT revenues of $6.5 billion were also a record, up 81% year-over-year and 32% sequentially. Notably, our strong performance and outlook would have been even stronger, had we not been supply constrained.

Within QCT we saw strength across our portfolio. Our RF adjacency demonstrated continued growth with quarterly revenues more than doubling year-over-year and crossing the $1 billion threshold, a significant milestone. We are executing extremely well in our strategy to address many of the technical challenges of delivering a true modem-to-antenna 5G experience and capture a higher dollar share of content in smartphones. We are also well-positioned with design wins across the mobile handset ecosystem, a strong pipeline for further growth in smartphones and a road map to bring our RF expertise to adjacent industries.

Our automotive revenues of $212 million were up 44% year-over-year and our design win pipeline has grown to $8.3 billion from just $3 billion three years ago, placing us on a trajectory to achieve our fiscal year 2024 revenue target of $1.5 billion. Our IoT adjacency also passed a $1 billion threshold in Q1 and grew 48% year-over-year driven by the growth of our core technologies for the digitization of consumer, networking and industrial applications. Our team continues to execute extremely well in spite of supply constraints and the continued impact of the pandemic. Our strategy is playing out largely as we expected, positioning us well to capture the rapid deployment of 5G in both the core handset industry as well as creating new opportunities in adjacencies.

In our licensing business, our broad portfolio of foundational, system level innovations and intellectual properties across 3G, 4G and 5G along with valuable implementation patents is unmatched and recognized in part by having signed more than 120 5G license agreements, up from 111 license agreements last quarter. Our continued success in licensing reflects our development of foundational technologies enabling 5G standards coupled with leadership in developing the standards themselves. Leadership in developing the products necessary to implement 5G technology and leadership in enabling the industry to rapidly implement 5G seamlessly worldwide. This process continues through the successive releases of 5G currently under development.

As our foundational on innovations coupled with our ability to implement 5G in products and coordinated deployment in new verticals continues to drive progress outside the handset industry. We continue to invest in complementary technologies that will enable the adoption of 5G use cases that will benefit consumers and businesses in a variety of industries as well as agriculture and the advanced important social objectives of both urban and rural environments including improvements in healthcare and education in a more widely connected future.

We have also spent the past decade deep in AI research and development, resulting in the creation of the technology necessary to scale AI across industries end products from smartphones and automotive to the IoT and data centers. To make AI ubiquitous, we focused on making efficient hardware, algorithmic advancements and software tools available to developers and OEMs. We believe AI will transform industries and our technologies will help accelerate the commercialization and scale of AI, making a ubiquitous around the globe. Our commitment to our high performance processor roadmap was reflected in our recently announced proposed acquisition of NuVia. We look forward to combining NuVia's world-class CPU and technology design team with Snapdragon to enable our ecosystem of customers to redefine computing performance, drive innovation and deliver a new class of products and experiences for the 5G era.

Just two years ago, we first announced our Snapdragon 855 mobile platform, the world's first commercial platform supporting multi-gigabit 5G and demonstrated end-to-end 5G consumer experiences with real demos over live millimeter wave 5G networks in devices. Today, we have an expanding portfolio of differentiated 5G solutions across multiple tiers of our Snapdragon mobile platforms with high performance basebands, advanced RF front end designs and leading-edge process nodes for our flagship solutions. We are well positioned to address growing 5G demand in the handset space and across our adjacencies.

In RF, our position today is the result of executing on our strategy to extend the breadth of the products we offer. In just a few years we have emerged as one of the largest RF suppliers in the smartphone ecosystem with a long-term roadmap supporting 4G and 5G sub-6 bands in addition to 5G millimeter bands, enabling us to expand our RF leadership into end product applications.

The automotive industry continues to change rapidly and the car is becoming more connected, more autonomous and more electric, as these trends disrupt the industry 5G connectivity and new experiences and user demands such as always connected digital cabins for infotainment, real time navigation and entertainment are becoming the new standard. We are working to meet the increasing demands of safe and premium driving experiences powered by 4G LTE and 5G connected services. With integrated cellular V2X, WiFi, Bluetooth and precise positioning technologies, our 4G and 5G platforms are designed to securely connect vehicles to the cloud, each other and the surrounding environment

With over 150 million vehicles on the road today connected with our modems, we are a leader in automotive telematics. We are evolving our strong position in automotive telematics to a strategic industry partner, building incumbency with continued innovation as the auto industry undergoes rapid transformation. Our third generation automotive cockpit solutions have been selected by 20 of the top 25 automakers and our recently announced fourth generation automotive platform demonstrates our leadership in high-performance compute, computer vision, artificial intelligence and multi-sensor processing. Lastly, our recently announced strategic engagements with General Motors and leading Tier 1 suppliers including LG Electronics, Google, Panasonic and Visteon are further evidence of our strong alignment with the automotive industry.

Turning to IoT, we continue to drive momentum in compute with the launch of our second generation Snapdragon HDX, the introduction of our commercial and educational platforms for both Windows and Chrome and continued ecosystem progress. We are also driving industry leadership in XR with over 40 design wins and strong ecosystem momentum with global operator partnerships. We believe XR has the potential to be the next computing platform. Our networking solutions target the full potential of WiFi 6 with a blend of advanced technologies and protocols, targeting networks deployed in enterprise, venue and prosumer applications. We are also extending our advanced WiFi 6 feature profile into the 6 gigahertz spectrum with second generation platforms. We are capitalizing on the transformation in private and public networks, enabling millimeter wave indoor and outdoor launches in North America and Japan with our small cell solution, bringing higher reliability and speeds to consumers as well as providing connectivity for 5G enterprise private networks of the future.

Lastly, we are accelerating deployment of our core technologies for digitization of non-mobile industries across retail, utilities, transportation and manufacturing applications. It is exciting to see the strategy we laid out several years ago playing out largely as expected and placing Qualcomm in a very strong position for Cristiano to carry division forward as he executes on the many opportunities in front of us over many years. Being CEO of Qualcomm for the last seven years has been a privilege and an honor. The foundation of Qualcomm's leadership is a relentless commitment to innovating with great products, focusing on large industries with technical challenges that are hard to solve. This is what always gave me the confidence we would succeed even when it wasn't obvious and I have every confidence Cristiano shares this vision.

I would now like to turn the call over to Akash.

Akash Palkhiwala {BIO 19085180 <GO>}

Thank you Steve and good afternoon everyone. We are extremely pleased to report strong results to start our fiscal year. We delivered a record first quarter with non-GAAP revenues of $8.2 billion and non-GAAP EPS of $2.17, which was above the high end of the strong guidance we provided at the beginning of the quarter. These results reflect year-over-year increases of 63% and 119% in revenues and EPS respectively, driven by strength across QTL and QCT. In QTL, we recorded revenues of $1.66 billion up 18% year-over-year and EBT margins of 77%. In the December quarter, we saw a year-over-year reduction of 7% in global 3G, 4G, 5G handset shipments compared to our planning assumption of a 5% reduction, reflecting the impact of COVID and softness in the domestic China shipments

In QCT, we delivered record results with revenues of $6.5 billion, up 32% sequentially and 81% year-over-year. These results were driven by strength across handsets, RF front end, automotive and IoT. Our strong revenue growth drove EBT margins of 29%, which was above the high end of our guidance and increased 900 basis points sequentially as we realize the benefit of operating leverage. We are also pleased with our continued diversification as we delivered record revenues in RF front, end automotive and IoT. RF front end revenues of $1.1 billion more than doubled on a year-over-year basis, reflecting the strength of our broad product portfolio across all frequency bands and customers. Automotive revenues of $212 million grew 44% year-over-year as our telematics and digital cockpit products continue to benefit from the industry rebound.

In IoT revenues grew 48% year-over-year to $1 billion across consumer, networking and industrial applications, driven by an acceleration in demand for our products and technologies. Our non-GAAP combined R&D and SG&A expenses of $1.78 billion was lower than our previous estimate, primarily due to the timing of certain R&D expenses within the fiscal year.

Turning to 5G adoption, we estimate approximately 225 million 5G handsets in calendar 2020 and forecast 450 million units to 550 million units in calendar 2021. We are extremely pleased by the adoption of our 5G chipsets across OEM partners with over 800 designs using 5G modem and RF Solutions. Our recently announced 5G premium tier mobile platform, the Snapdragon 888 already has over 120 design wins. We now have 5G offerings across several tiers from our premium tier Snapdragon 888 to our recently announced Snapdragon 480, all capable of supporting millimeter wave. For global 3G, 4G, 5G handsets, we estimate that shipments declined 12% on a year-over-year basis in calendar 2020. In calendar 2021. We expect total handsets to grow in high single-digits year-over-year. This assumes an impact from COVID in the first half, consistent with the exit rate of 2020 and the recovery in the second half. In addition, QCT's addressable market will expand to include Huawei's existing share, which is estimated to be approximately 16% of total handsets in 2019.

Turning to our second quarter guidance, we are forecasting revenues of $7.2 billion to $8 billion and non-GAAP EPS of $1.55 to $1.75 a year-over-year increase of 46% and 88% respectively of the midpoints. In QTL we estimate revenues of $1.25 billion to $1.45 billion, an EBT margins of 66% to 70%. This is in line with normal seasonality following the strong holiday quarter and reflects the slightly lower handset forecast I previously outlined. In QCT, we expect revenues of $6 billion to $6.5 billion, up 52% year-over-year and EBT margins of 23% to 25% reflecting EBT dollar growth of 125% versus the year ago quarter. Consistent with historical trends, we estimate non-GAAP combined R&D and SG&A expenses to be up 5% to 6% sequentially due to normal calendar year resets for certain employee-related costs. We estimate that the pending acquisition of NuVia will increase fiscal '21 non-GAAP combined R&D and SG&A expenses by approximately $100 million, a portion of which is contemplated in our second quarter guidance.

Looking forward to the third fiscal quarter, we estimate QTL revenues to be in a similar range as our second quarter guidance and expect QCT earnings to double on a year-over-year basis. This forecast contemplates the current seasonality of the QCT business following the strength in the first half of the fiscal year, which was driven by 5G flagship launches including Apple, the holiday season and Chinese New Year. In addition, we are seeing demand significantly outpacing supply, given the constraints affecting the industry. Beyond the third quarter, we continue to forecast strong growth across QCT, driven by new device launches, design win traction and strength in our adjacent platforms.

Lastly, we launched our latest annual corporate responsibility and ESG report yesterday, which is now available on our website. I'm pleased to share that we have successfully met or exceeded our 2020 goals and have disclosed 2025 targets, focused across key areas of diversity and inclusion, purposeful innovation and reducing our carbon footprint. We continue to respond to the expectations of our stakeholders to disclose ESG information in alignment with international standards. Before I finish my prepared remarks, I want to thank our employees for their continued hard work and focused execution.

I'll now turn the call back to Mauricio.

Mauricio Lopez-Hodoyan {BIO 20932685 <GO>}

Thank you, Akash. Operator, we are now ready for questions.

Questions And Answers

A - Mauricio Lopez-Hodoyan {BIO 20932685 <GO>}

Thank you (Operator Instructions) Our first question comes from Samik Chatterjee with J.P. Morgan. Please proceed with your question.

Q - Samik Chatterjee {BIO 15496543 <GO>}

Hi, thanks for taking my question. And before I ask my question, congratulations to both Steve and Cristiano. And so, if I can just start off with the seasonality here. I think what you're guiding to for the QCT segment is a mid single-digit decline in seasonally in revenues versus more of a mid-teens decline in QTL. Can you just help us understand the drivers, what's causing that difference? And I think that's leading to some concerns in and investors today that the sell-in of chips is greater than the sell-through piece and leading to some inventory build, so I just wanted to see if you can address that as well.

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah, hi Samik, this is Akash. We are not seeing any significant inventory build in the channel. So let me just maybe clarify that to start with. If you think about QC -- QTL revenues sequentially from the December quarter to March quarter, we've talked about seasonality in that business consistently in the past and so our guidance really reflects that. So it's no different than kind of the shape of the year that you generally see in the handset market and mix of OEMs being reflected in the dollar. So in the past we talked about $1.7 billion midpoint going to $1.4 billion from December to March and what we are guiding is we came in just below the midpoint in the December quarter and we're guiding similarly just below the $1.4 billion for the March quarter. So that's the message on -- on QTL.

On QCT, clearly with Apple now in our revenue stream, there is a different seasonality than we've had in the past and so you see kind of that becoming a factor, but when you take -- remove that our seasonality is actually extremely strong with significant growth from December to March quarter and really strength across not just mobile platform with the launch of our Snapdragon 888 chipset, but also across RFFE, auto and IoT being strong as well. So it's really strength across the board. And what you see in the numbers is the seasonality of the revenue profile showing up.

Q - Samik Chatterjee {BIO 15496543 <GO>}

Okay. Got it. If I can quickly follow up, I think historically pretty -- before the US restrictions came into play as you've talked about Huawei, not really being material in terms of contribution to earnings, even though you had some MSM shipments there. Do you see a likely change or any material change post the restructuring of that business, where there is a part of the business sold to on our brand and I think there are also some restructurings going on for the Huawei brand, any changes that could lead to?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah, Samik as I said in my prepared remarks, we see the Huawei market share -- Huawei portion of the market really has a significant SAM growth opportunity for us as either the share goes to other OEMs or to Honor or Huawei continues. We have an opportunity to sell into it. So kind of longer term in the second half of the year, we feel like that's a significant opportunity for us, but at this point in our second quarter guidance there, we don't have material revenue assumed for Huawei or Honor.

Operator

Thank you. Our next question comes from Mike Walkley with Canaccord Genuity. Please proceed with your question.

Q - Michael Walkley {BIO 3359029 <GO>}

Great, thanks. And if my best to Steve navigating some tough times and best wishes to Cristiano also. My question, I guess, just focusing on the margin front, really strong margins on QCT. I know there's some seasonality into Q1 and an increased costs, but given the strong margins to start the year Akash, how should we think about margin trends over time as you leverage harvest that 5G investment?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah. So, thanks Mike for that question. Very happy with the QCT margins in the December quarter. I mean, really at 29% operating margins and gross margins were extremely strong as well and contributing to the strength in the operating margin profile. So, very happy to see that. Really when you look forward there are a couple of factors driving our margin profile.

Overall, from a gross margin perspective there really isn't a specific trend. As we've said in the past, we feel like we have the ability to hold margins and consistent with our recent history and potential upside opportunity to grow it, and so we still have the same view. And operating margin will then just become kind of something that falls out based on the revenue profile, but just kind of when you abstract out the seasonality, we're pretty happy that we set a target at the Analyst Day last about 15 months ago and we are on our way to meeting and exceeding what we set out.

Q - Michael Walkley {BIO 3359029 <GO>}

Okay. Thank you. And then just a follow-up on the margins on the QTL side with a lot of the legal things dying down in signing over 120 5G contracts, do you see leverage on that side also, maybe if you can reduce legal costs or are there still high audit cost involved there? Thanks.

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah, Mike, from a QTL perspective really legal costs have been at a stable lower level for the last several quarters and so the margin profile that you're seeing kind of reflects a stabilization of the legal cost and really it's about about the top line revenue and focusing on kind of expanding and keeping the licensing business steady going forward.

Operator

Thank you. Our next question comes from Chris Caso with Raymond James. Please proceed with your question. Chris your line is live, you may proceed with your questions.

Q - Chris Caso {BIO 4815032 <GO>}

Hi. Excuse me. Thank you. So from my first question, what -- where should address the shortages and obviously something we've heard from a number of others in the industry in this quarter, can you talk about the extent to it? And your opening remarks, you mentioned that revenue would have been higher if not for the shortages, could you help us to quantify that some? And then perhaps talk about the next couple of quarters, how that may play out if you recapture some of the business that you weren't able to ship in the December quarter and how that proceeds?

A - Cristiano R. Amon {BIO 3259554 <GO>}

Hi, Chris. This is Cristiano. Yeah, happy to address. We have seen, I think probably shortage across the entire industry. There is a couple of factors driving that. One is, V-shaped recovery, I think, across many of the sectors that were present now.[We saw acceleration of digital transformation also consistent with this trend of the enterprise transformation of their home. And especially for Qualcomm and QCT, we have seen an opportunity with the expansion of addressable market. Huawei represent or represent 16% of the market that becomes available to us across all of our OEMs. So that's driving a situation that demand is outpacing supply. We're happy what we see right now on the premium tier. For example, in high tier we see share gains in fiscal '21 and we expect the situation to normalize towards the second half of the year.

Q - Chris Caso {BIO 4815032 <GO>}

Okay, thank you. And with that, you made some comments about the fiscal third quarter that perhaps you could clarify. First on the QTL side, you talked about similar levels on QTL, if you could help us reconcile that with your view of overall handset units? I think you said growing 77% sequentially. And then you gave us something to go on with regard to the QCT side with the profitability doubling and I guess with that should be assume that -- that profitability doubling would be at similar operating margins to what you're guiding for the March quarter?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah, Chris. So this is Akash. I think QTL as we've said in the past, we're going to see the market consistent between March and June quarters in terms of how the overall market -- mobile market behaves. And so that's what is reflected in the data point we provided for the June quarter. QCT, I think it's a fair way of thinking about it. We are expecting it to be extremely strong, doubling profit year-over-year basis and and margin profile is really going to kind of fall out from the scale of the -- scale of the revenue as we discussed earlier. From just what is reflected in our third quarter numbers is, just the natural seasonality of the business now that we have Apple in our revenue stream and there -- the timing of their purchases within the year is reflected in the data points we are providing.

Operator

Thank you. Our next question comes from Joe Moore with Morgan Stanley. Please proceed with your question.

Q - Joseph Moore {BIO 17644779 <GO>}

Great, thank you. I wonder if you could give us color on the growth in RF being so impressive, when you look at 5G units potentially kind of more than doubling, when you look at millimeter wave really at one customer in one region. I'm just surprised at how robust December is and kind of can you talk to the sustainability of those revenue levels and the growth drivers going forward?

A - Cristiano R. Amon {BIO 3259554 <GO>}

Hi Joe, it's Cristiano. Yes, you know it's very consistent to what we have been saying since the beginning of 5G. We saw 5G as an entry point for us. We have a highly differentiated solution with our modem-to-antenna platform and all of those designs, to think we updated the design count now on 5G is an excess of 800 designs. They all contain 5G RF front end components. Also we like that, it's a very diversified our effort and revenues across our customers also with a lot of Sub-6, it's not only millimeter wave, even though we are very happy with the expansion prospects of millimeter wave and that's definitely an accelerator for Qualcomm. So it's a business, which is now one of the fastest growing business we have. We're happy achieved the threshold of $1 billion and will continue to grow as we grow 5G.

Q - Joseph Moore {BIO 17644779 <GO>}

Great, thank you.

Operator

Thank you. Our next question comes from Stacy Rasgon with Bernstein Research. Please proceed with your question.

Q - Stacy Rasgon {BIO 16423886 <GO>}

Hi guys, thanks for taking my questions. First, I wanted to dig again in the chipset margin guidance. So you're guiding chipset profit dollars down over $400 million sequentially on about $280 million revenue decline. It's like a 150% negative incremental margin. But presumably the mix ought to be getting better as Apple and the handsets flows [ph] off of the adjacencies, it sounds like they grow. So like what is going on in there, like why are the margins coming down that much given the revenue trajectory?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah, so a couple of factors Stacy. It's Akash. First is as I indicated in my prepared remarks, we typically see kind of a resetting of certain expenses on the OpEx side. So you have OPEX growth that happens between the December and the March quarter and it's -- this is consistent with history. If you go back and look at our numbers in the past you kind of see the same increase, so that impacts the margin a bit. Second is we did see some strength in certain pockets in the December quarter in our gross margin profile. So gross margin profile was higher in the December quarter than our recent trend and what we're guiding forward is some something that's consistent with our recent trend. So any upside to that would be something that, of course we're going to try to execute on but it'd be upside -- upside to our guidance.

Q - Stacy Rasgon {BIO 16423886 <GO>}

Thank you. And if I can follow-up on QTL margins. So you're guiding 68% on whatever it is $1.35 billion at the midpoint. In 2019, you were actually running higher than that, you were like $1.1 billion to $1.3 billion to lower revenues. You had margins that were in line to higher than what you're guiding now with legal costs that were a little bit higher. So like what's going on in the QTL side? Why aren't margins higher on this revenue level?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah Stacy, there is no something specific going on. I mean, if you go back to Analyst Day and I don't have the 2019 numbers in front of me, but if you go back to Analyst Day, what we laid out in front of you for the full year for QTL, where we thought the margin for the year would be higher than 70% with Huawei result. We are very much executing to the target we laid out. We think we're in a good place to execute on it.

Operator

Thank you. Our next question comes from Blayne Curtis with Barclays. Please proceed with your question.

Q - Blayne Curtis {BIO 15302785 <GO>}

Hey, thanks for taking my question. Just revisiting on the margin side, given the shortages you're seeing and just kind of you just comment on your input costs and whether that's kind of rolled in other or whether that's an impact kind of going forward do you think in margin?

A - Akash Palkhiwala {BIO 19085180 <GO>}

I think, Blayne, as you would expect a lot of our conversations with the customers and suppliers around how we address supply. And our agreements on price generally tend to be longer term. So really that's where we are focused on is kind of being good partners to our customers and focusing on supply. Margin is consistent with our recent history and that's what's reflected in the guidance.

Q - Blayne Curtis {BIO 15302785 <GO>}

Thanks. And then just for the June quarter, the doubling of QCT profits, I think obviously that the new large customer you may be seasonally down there, just on the Android side that typically a stronger quarter particularly if the market is going to double. So just kind of the moving pieces, if we looked like QCT would be down sequentially from March to June to skip that doubling our profits, just any perspective on your outlook and Android within that?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah Blayne, there isn't -- there isn't a specific trend that I'd like to point out there. I think our -- the strength of our business remains consistent between the quarters on Android.

A - Cristiano R. Amon {BIO 3259554 <GO>}

Maybe -- this is Cristiano, I just want to add a small data point. If you -- there is a cash outlined seasonality because of one large US customer, but if you look of what is happening outside debt, actually we're very happy with what we see in terms of a premium and high tier share gains. I pointed to the addressable market that is becoming available to us from Huawei and that's going to be a growth story, especially for the QCT premium and high tier as we go throughout the quarters.

Operator

Thank you. Our next question comes from Tal Liani with Bank of America. Please proceed with your question. H

Q - Tal Liani {BIO 1643846 <GO>}

Hi guys, you guided of smartphone to be going up, going from minus 12 last year to go up high-single digit. This year, can you give us like a little bit of color of regions also kind of types of smartphones, any color on the composition of the growth this year?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah, Hi Tal. This is Akash. So really what our guidance, just to reiterate it. We are saying the market was down 12%, '19 to '20, calendar '19 to calendar '20 and would grow in high single-digits from '20 to '21 and this reflects kind of continuing COVID impact in the first half and then recovery in the second half. Really within that market, what's the critical driver for us is how 5G plays out and so if you look at our 5G forecast we're expecting it to go up from $225 million in calendar '20 to a midpoint of $500 million. So very strong growth and that's kind of the key driver for us in terms of how our revenue expands on the chip side.

And then maybe last thing I'll point out is to Cristiano comment earlier, Huawei has been a very large OEM and it was really from a chip perspective, it was mostly HiSilicon that satisfying their demand. Now, with the change in the market, we have kind of 16% of the market that was not available to us before being available. So as we cannot look further out, we see this as a pretty material expansion of SAM for us.

Q - Tal Liani {BIO 1643846 <GO>}

So just as a follow-up, if the market is going from declines to growth, what's the impact on QTL at the high level, meaning, is this growth going to be in high-end countries where anyway you're hitting the limit of the ceiling for the price of $400 or is it going to be mostly in developing markets, where the growth -- the improvement in growth can translate also improvement in the total addressable market meaning units times [ph] price. I'm trying to understand the impact of the ceiling to the price for QTL?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah. So I think from a QTL perspective, the way we see 5G benefiting the ASP as 5G goes into lower tiers below the ceiling it kind of mix richer for us as people upgrade devices, they buy more expensive devices and that would be the opportunity for QTL. But we, again, we are not planning that into our forecast at this point and we see it as a potential upside as it materializes.

Operator

Thank you. Our next question comes from Ross Seymore with Deutsche Bank. Please proceed with your question.

Q - Ross Seymore {BIO 20902787 <GO>}

Hi guys, thanks from me to ask a question. First of all congratulations both Steve and Cristiano. I wanted to go back on the QCT side to the China dynamic and that 16% increase in their SAM, how are you guys handling the potential inventory dynamic, where the Honor side might keep the share and you could get design wins there, but all of the aspiring share gainers are also going to build to take share. So the potential for inventory coming back. I realize in the period of shortage, it might not be an issue for you, but how are you managing, avoiding that pitfall?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah. Hey Ross, it's Akash. It's definitely something that we are trying to manage carefully. I mean we do have very strong demand from various OEMs. But as you rightly pointed out, it really is more of a supply-driven market and so we have more opportunity to sell and increase our revenue than we can supply at this point. So it's really, that's the primary focus and we don't really have any inventory concerns at this point with our customers.

A - Cristiano R. Amon {BIO 3259554 <GO>}

If I can --

Q - Ross Seymore {BIO 20902787 <GO>}

And there is follow-up.

A - Cristiano R. Amon {BIO 3259554 <GO>}

No, Ross, this is Cristiano. I just want to add one thing, given the size of those customers, the semiconductor supply chain is probably size for what the market size is. So that in itself provides some correction on inventory.

Q - Ross Seymore {BIO 20902787 <GO>}

Great, thanks for that color Cristiano. I guess as my follow-up if I went back to the margin side of things, it seems like you're guiding the implied gross margin down about 3 points sequentially in the March quarter. And then I understand QTL goes down in QCT up, so from a mix perspective, that would happen, but it's still a little bit greater than I would have expected. You answered in the prior question Akash a little bit about a normalization that you're assuming there. I wanted to dive a little into what was driving the upside in the December quarter and why would that change going into the March quarter?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah. So I think Ross, it was -- the December quarter upside was just driven by mix across businesses and we have certain customers who -- who made purchases earlier than they would usually purchase. So it's just more operational mix that drove the -- drove the upside and so we're not forecasting that at this point going forward.

Q - Ross Seymore {BIO 20902787 <GO>}

Thank you.

Operator

Thank you. Our next question comes from Matt Ramsay with Cowen. Please proceed with your question.

Q - Matt Ramsay {BIO 17978411 <GO>}

Yes, thank you. Good afternoon, guys. My first question, I think a number of folks have asked about this, 16% of the market that was Huawei, that's now available to you. And I think you guys have answered about potential inventory build up to this point, but no secret that Huawei had been building finished goods and semiconductor inventories going into the situation, Cristiano any thoughts as to how long they can remain in the market and win that opportunity to -- for share shift may present itself to you guys from a timing perspective? Thanks.

A - Cristiano R. Amon {BIO 3259554 <GO>}

Hi, Matt. Thanks for your question. Look we measure those things based on their design activity. And why we can't really predict how much inventory they have, especially on the high-end premium tiers, whether you get range through a carrier in the portfolio or you get range into retailer, the market is already moving. And as I said earlier, we have -- we've seen very strong design activity. We are in a -- in a positive position, because we're very well hedged. If IOS win, if Samsung Android wins, Vivo, OPPO, Xiaomi wins or even if over time companies like Honor wins, we're very well positioned there and we'll see how that play out. But I will say that because of how distributors and the carriers think about it, the portfolio is already switching and that's reflecting in the design activity, we see right now.

Q - Matt Ramsay {BIO 17978411 <GO>}

Got it, thank you for that. I guess an unrelated follow-up question. I was interested in the acquisition of NuVia, the team had made some changes on the CPU side a few years ago to be -- I think more dependent on I guess licensed cores directly from Arm for the Snapdragon portfolio and I wonder what the acquisition of NuVia might signal around your intentions there, number one? And number two, about ambitions into markets that include Chromebooks, Notebooks, 5G connected consumer rises, et cetera, if there is any comments there on the TAM, Akash that would be helpful/

A - Cristiano R. Amon {BIO 3259554 <GO>}

So Matt, let me just start and I will shift to Akash talk about the TAM. We're very excited about this acquisition. And it's -- it's probably very clear. If you look on the announcement we made, one thing that it was really incredible is the support we received from the mobile ecosystem every single OEM was there with the exception of two, which it doesn't really a to them and then you'll have the entire computing ecosystem, there both across the Windows and Chrome. For us, it basically reflect, this view that we had of full conversions between mobile and computing. I think we are in the very beginning of that with our Windows Snapdragon program and create opportunities for us to do a step function increase in performance with the -- the power advantage of Qualcomm, both across premium smartphones as well as the computing segment and that is likely to be a key differentiation for Qualcomm going forward.

A - Akash Palkhiwala {BIO 19085180 <GO>}

And I really for the, if you think about the addressable market for the PC and Chromebooks market, this is over a couple of hundred million of units, right. So it's a very large market and what's really important for us is to be able to combine CPU -- leading CPU technology along with the other assets that we have in mobile and address that -- address this market in a differentiated fashion and so we feel pretty good about our ability to do that. I'd also say that CPU has a lot of implications outside mobile phones and PC market along with into auto and IoT as well. So it's an asset that's going to be broadly -- broadly relevant to the end markets we pursue.

Operator

Thank you. Our next question comes from Mitch Steves with RBC Capital Markets. Please proceed with your question.

Q - Mitch Steves {BIO 19155169 <GO>}

Yeah. Congratulations guys. I just had a couple of -- a couple of questions here, just kind of circling back in inventory thing, kind of looking at the full year. So, maybe first, I mean how does Qualcomm kind of mitigate the idea that some people are over building on the smartphone side, trying to gain share from Huawei and we're going to have a back half kind of -- kind of drop off? And then secondly, maybe a better way to ask this question, I know you guys don't give full year guidance, but if I look at the full year in terms of calendar year basis, what type of balance do you guys think the revenue is going to look like? Is it going to be more 45%, 55%? Just how should a calendar year look like now, now that Apple is kind of a major customer for you guys?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Which on the second question, if you just look at our profile of customers, right, as we go back to the third quarter and go into the fourth quarter, we're going to have flagship devices being launched again, going all the way to the holiday season. So it does become a kind of a pretty area of strength as we go into September and December quarter, relative relative to June. So -- we are expecting revenues to grow significantly, not just in mobile, but then RF front end that goes with it and then also in IoT and auto, we're continuing to see strength in the design win pipeline. So it's really across the board.

A - Cristiano R. Amon {BIO 3259554 <GO>}

And maybe to your first question, Mitch, maybe reiterating what we said before. We don't see, I think we've heard a lot in this call about discrepancy between sell-in and sell-out. We don't see that. We actually see demand outpacing supply and the supply availability is what's really regulating the market. So we're not too concerned about that at this point.

Q - Mitch Steves {BIO 19155169 <GO>}

Yes, maybe if I can (inaudible). So I guess what do you think is COGS [ph] in that demand surge? Is it just 5G, I'm just curious as to what's giving you guys the confidence that continues for the rest of the year?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Sorry Mitch, can you repeat that question?

Q - Mitch Steves {BIO 19155169 <GO>}

So you guys are saying you're confident that demand is outstripping supply and the sell-through is fine. So I'm curious as to why you believe the demand is there and it's so significant versus prior cycle?

A - Cristiano R. Amon {BIO 3259554 <GO>}

Yes, this is Cristiano, let me address that again. It's a couple of things, right. We have been saying and I think that's been the key driver in QCT, we are growing on a market that grows single digit. We're growing fast in the market as both I think our expansion into 5G as well as the addressable market that is expanding for us. The Huawei 16% example, that's one. The other one is we have seen good numbers on 5G. We, for the calendar year, we actually the range we went to the high end of the guide with 225 million 5G units and our guide for '21 is I think the upper side of the guide is in the 550 million. So the 5G transition is robust device ecosystem has to move on and we see an expansion of addressable market. That is all giving confidence and the supply chain situations as I said earlier has been broad across the industry. It is not unique to handset. We also saw the acceleration of digital transformation across the industry and the V-shape recovery, but it should get normalized towards the later part of 2021.

Operator

Thank you. Our next question comes from the line of Brett Simpson with Arete Research. Please proceed with your question.

Q - Brett Simpson {BIO 3279126 <GO>}

Yeah, thanks very much. I just wanted to dig in a bit on the shortages that you flagged. Just specifically, what is the main sort of source here of the shortages? Is it more sort of 5-nanometer yield challenges you're seeing and that's sort of impacting the the premium flagship segment that you operate in or is it more sort of (inaudible) and what's happening with (inaudible). Can you maybe just talk a bit more about some of the challenges you're having here? And specifically, when do you think we come out of the shortage situation? Is it going to be the June quarter or do you have to wait for the second half for the things get back to normal? Thank you.

A - Cristiano R. Amon {BIO 3259554 <GO>}

Thank you for your question. Look the simple answer is the shortage in the semiconductor industry is across the board, not only leading node, but also legacy nodes. You should think about it that is used -- legacy process is used in a lot of automotive, it is used in all of the networking products and consumer electronics. And also you see that in lot of the attaches with their power management chips or RF chips. So the V-shape recovery that we've seen across the industry and all of the accelerated digitization is driving semiconductors and we've seen that across the board. Specific to a 5-nanometer, I think we're ramping a new process, it's very consistent to our expectations or argue [ph] that we probably for a ramp of a new process with our partner, this time we ship more in the quarter, early in the ramp for Snapdragon 800 and we expect to your question, this to normalize towards the later part of 2021, as capacity was put in place and we see some of the demand across other sectors of the industry to catch-up of supply.

Q - Brett Simpson {BIO 3279126 <GO>}

Okay, thanks. And maybe just a follow-up on QTL. So I mean you spoke a lot about some of the success you were having in QCT regarding autos and you referenced 20 to top 25 automakers using the Cockpit Platform and you've got a $8.3 billion backlog. How do we think about the QTL opportunity here for -- specific for autos. I mean is there something you can share with us in terms of how royalty agreements are going here and what sort of royalty rates we can expect for 5G given the use cases are very different in autos going forward? Thank you.

A - Alexander H. Rogers {BIO 19966795 <GO>}

This is Alex. Thanks for the question. Yeah, we've had a long-term licensing program and automotive telematics for 3G, 4G. We're actually having quite good success with our 5G licensing, of course, not a lot of 5G units have hit the road yet. We haven't released details of the licensing program or the particular royalty structure at this point in time, but maybe some point in the future.

Operator

Thank you. Our next question comes from C.J. Muse with Evercore. Please proceed with your question.

Q - C.J. Muse

Yeah, good afternoon and thank you for taking my question. I guess first question with RF front end doubling calendar '20 versus calendar '19, curious if there is a framework that you could provide in thinking about the growth trajectory into '21? Obviously, you have two quarters now of Apple millimeter wave in there, we'd love to hear any thoughts that you could provide in terms of how to think about the growth here in '21 and beyond if you can?

A - Akash Palkhiwala {BIO 19085180 <GO>}

Yeah, Hi C.J., it's Akash. You know at the Analyst Day we laid out kind of financial targets for the RF front end business. We said we want to be greater than 20% of an $18 billion market. We are very confident that we are on our way to achieving that in an accelerated fashion versus the timeline we laid out. So we had said we get there in '22 and we feel like we are there -- able to get there in an accelerated fashion, pretty happy about that.

Q - C.J. Muse

Okay, that's helpful. As my follow-up, you've had a number of questions, I guess on the supply constraint front and EBT margins for QCT, but I guess I wanted to ask a little bit differently. In terms of higher wafer and (inaudible) costs and you talked earlier about how you have longer-term contracts with set pricing, curious how we should be thinking about perhaps higher costs earlier in the year versus later in the calendar year and what that might mean for the trajectory of QCT margins over time? And I guess as part of that, you showed great growth from 14% to 22% in calendar '20 considering your outlook for 5G, should we be seeing another kind of stair-step higher for margins there? Thank you.

A - Cristiano R. Amon {BIO 3259554 <GO>}

Yes, C.J. from a -- from a wafer cost and fab cost perspective, really kind of not much of a story for us. It's really consistent with what we had expected before and we feel confident that we can execute to the margin profiles that we've outlined, both kind of from an analyst day long-term perspective and also guidance we are providing. Really as you look at the second half of the year, we were looking forward to strong revenue growth across all of our businesses and of course the margin will benefit from that as well just as we get scale and the operating leverage benefits shows up.

Operator

Thank you. Our final question comes from the line of Timothy Arcuri with UBS. Please proceed with your question.

Q - Timothy Arcuri {BIO 3824613 <GO>}

Thanks a lot. I guess my first question is just on QCT, so you'd guided QCT down I think 15% for March last call and now it's down just a little bit off of the December base, it was about as you guided. So -- and that's even despite some of the constraints that you had talked about. So the story really is that March on the component side is even better than what you thought it was few months ago, but that's despite sell-through on the licensing side being actually little bit worse than you thought due to COVID. So I guess the first question is, why is QCT so much better than what you saw three months ago and and this is the fourth quarter where these two businesses are sort of going in opposite directions/ So I guess I wanted to better understand why Cristiano, why you think it is a problem as you get into the back half of the year? Thanks.

A - Akash Palkhiwala {BIO 19085180 <GO>}

Tim, it's Akash. One of the things -- one of the key factors that kind of drives the two businesses going in different direction in this cases is just timing of purchases by large customers. And so we saw some accelerated purchases going into the March quarter versus June and so it's just depending on how the inventory strategies play out for different customers. The timing makes an impact as to when we see the improvement in our financial performance, but underlying trend, there is no kind of specific story, it's just how things play out based on sell-through and timing of when people buy parts.

A - Cristiano R. Amon {BIO 3259554 <GO>}

Look, if I can add one thing, just real quick. Also, maybe the beginning of this process, but QCT is showing also other growth drivers like the automotive growth driver, the IoT growth driver, so over time as the business get more diversified, I think you're going to have probably last correlation between the two.

Q - Timothy Arcuri {BIO 3824613 <GO>}

Thanks. Thanks for that. And I guess my last question is on millimeter wave, so I guess the first 100 megahertz of C-band is going to clear at the end of this year. It seems like the big US carrier that was kind of driving that is going to maybe shift some of their CapEx over to build out C-band in the next two years. I know some of the other US carriers are talking about building out a millimeter wave in 2023 and beyond. Can you just talk about the pace of adoption for millimeter wave, obviously you have a lot of leverage there. Do you think it's going to be lumpy or do you just see it going from here? Thanks.

A - Cristiano R. Amon {BIO 3259554 <GO>}

Hi. This question Cristiano. Look, we are very pleased with what we're seeing in millimeter wave. As we restate what we said, I think you need millimeter wave for the full potential of 5G and especially as you look at some of the more advanced applications beyond smartphones, millimeter wave continue to be a requirement for the premium devices in the United States. We're very pleased to see that one of our large customer had brought millimeter wave across all price points of their devices. In this quarter we saw Germany with the auction rules starting for millimeter wave at 26 gigahertz and we continue to see activity indicating that China, it's likely to have millimeter wave for 2022. So we're happy what we see. It is progressing as we plan and as you said it correctly, millimeter wave is probably an accelerator of our 1.5 multiplier in QCT.

Operator

Thank you and that concludes today's question and answer session. Mr. Mollenkopf, do you have anything further to add before adjourning the call/

A - Steve Mollenkopf {BIO 16172191 <GO>}

Yes, thank you. First of all, I want to thank folks who gave the kind words on the call. I mean I know Cristiano feels the same way. This is actually -- if I count correctly my 50th earnings call. So I appreciate the hard work from the Qualcomm team, making it a record. I look forward to seeing where the company goes. It is exceedingly well positioned and thank you all for joining us today. Thank you.

Operator

Ladies and gentlemen, this concludes today's conference, you may now disconnect.
