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EDITED TRANSCRIPT

QCOM.OQ - Qualcomm Inc at Canaccord Genuity Growth Conference (Virtual)

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Thomas Michael Walkley *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

PRESENTATION

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Good afternoon, everyone. Thanks for participating in the Canaccord Genuity Growth Conference. My name is Mike Walkley. I'm the communications, IoT and security analyst for Canaccord Genuity and really excited to have Qualcomm's CEO, Cristiano Amon, for a fireside chat conversation today. For participants in the audience, I will do my best to include questions. So please type questions in as you're watching when they come to mind, and we'll do our best to cover them.

Cristiano, thanks so much for joining us today. It's always a great pleasure to speak with you. And I hope you and the Qualcomm employees are safe and healthy.

QUESTIONS AND ANSWERS

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

So just to jump right into it, part of our thesis on Qualcomm's stock and what we just talked about is I think if Qualcomm continues to deliver expanded QCT margins and then shows the diversifying revenue growth as evidenced by RF IoT and automotive, that represented over 40% of revenue in Q3, I think the multiple of the stock is set to expand and consistent with our buy rating.

Maybe to start off today, Cristiano, as part of the revenue diversification strategy that you really helped do as you were running QCT, and now that you're a CEO, maybe we can just start with the nonsmartphone part of the business and let's just jump right in maybe to the IoT business. That's a business that grew an impressive 30% sequentially during the June quarter and 83% year-over-year. Can you share with investors kind of the growth drivers of that business?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Absolutely. I think, first of all, Mike, good to see you and happy to participate in this conference, and I appreciate the opportunity. We -- one thing that you said, it's 100% right, the way we see it. I think the company is diversifying very fast. We have an incredible opportunity. There's demand for Qualcomm technologies across virtually every industry. I agree with you that we have an incredible opportunity, even coming up in our Analyst Day to rerate the company. The company is a lot more than mobile right now.

And I -- your question on IoT is spot on. Not all IoT is created equal, as you know. And we're very happy. We have a very diversified IoT set of revenues. It is growing at a very fast rate, as you pointed out. And we have a number of opportunities there.

The way I will simplify what our IoT segment is, and if you look up the digital transformation that is happening at a very fast pace across a number of companies and I'm sure the market buys and believe on the growth of the hyperscalers in the cloud, you believe they're the future cloud-based economy. So if you look at the growth projections on the hyperscaler, there's an enormous amount of devices to get connected and data that goes to the cloud.

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We're the company enabling the other side of the data center. So this intelligent connected edge, this is where our IoT segment is. And we think about Qualcomm, not only a company that owns the mobile space, but we have an incredible opportunity to own this intelligent connected edge.

And within that IoT segment, we see a number of growth factors. First, a complete upgrade of broadband at the edge. This is happening at the home, at the enterprise, it's driving our networking business, mesh, transition to Wi-Fi 6, in the future, Wi-Fi 7. We saw the first wave, which was the transformation of the home. And now, we're seeing the second wave, which is as people go back to the workplace and the workplace look like hoteling and needed to have a lot of capabilities for telepresence, that is changing that as well, we see the networking to continue as 5G gets deployed by the enterprise for a lot of private networks. And that's all happening within the networking.

And we were able to create a whole new business. For the very first time, cellular technology can be an augmentation of fiber. And with the extension of 5G broadband, especially sub-6 and millimeter wave, we just broke the barrier of 10 kilometers range with millimeter wave, we've seen enormous opportunities within the landline side of the carriers as they continue to upgrade broadband. So that's driving a lot of the network opportunities.

The other ones on the consumer side, we're seeing devices from one end of the spectrum. We're becoming the alternative to the Apple ecosystem on everything related to earbuds. We -- Snapdragon Sound, we have now over 50 agreements, which is incredible in a short period of time.

And you think about a lot of people on their phone and their PCs, how they think about audio. And on one hand of the spectrum, you have companies like Bose and others using our technology, and then in the consumer IoT, go all the way to Peloton bikes. So it's very diversified. It's about bringing mobile technology to a best array of consumer devices.

And then industrial, that is where I think the most exciting part is of our IoT segment, which is digital transformation and enterprises are connecting everything, first, to the enterprise, connect their people, and now they're connecting their assets. We've seen that happening at retail, oil and gas, manufacturing, health care, with a lot of intelligent connectivity, highly reusable for mobile. It is accretive to the QCT revenues. It's very diversified.

We used to count Qualcomm customers on 2 hands, and then one hand, when we saw the concentration of mobile. We have over 13,000 customers now within the IoT segment. And we're very happy about that opportunity, and we want to be the company that will own the connected intelligent edge with everything we have on IoT.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. That's very helpful. And with that 13,000 customer base, obviously helping diversify your overall revenue mix, how should we think about just the margins for that business given it's a smaller base, but a lot of volume goes through there?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Look, the -- you saw that the QCT margins, I think, continue to improve. And what we like is what we do in outside handsets, and especially in the IoT segment, we have a very high reuse factor on technologies that got developed from our mobile system. And as a consequence, they're all accretive to QCT margins.

And we're very happy, not only with the growth rates, those end markets grow at a much faster rate than mobile. The growth rates are similar to what we see on the cloud, and it makes sense. It's just the other side of the link. And the margins are much higher than historical QCT margins.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

That's great. I think when people think of digital transformation, sometimes they think of just software companies, but clearly, Qualcomm plays a big role in that, and your IoT business is showing that.

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Cristiano Amon - *Qualcomm Inc - President and CEO*

Somebody has to connect things to the cloud.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Exactly. Somebody's got to do the key connectivity. And with 5G coming, there's even more opportunities. One area you didn't really touch on, but I think could be a really strong growth driver within IoT, is how 5G plays a role in mobile broadband. Can you talk about this opportunity and what inning we're in, in terms of that growth driver?

Cristiano Amon - *Qualcomm Inc - President and CEO*

No, absolutely. I will argue that it was a whole new opportunity that got opened up for Qualcomm on 5G that we didn't have before, which as we continue to see the expansion and growth of the mobile market, from 4G to 5G, in that it drove that 1.5 multiplier. On top of this, we see 5G becoming a part of our broadband. And the way to think about this is operators have to lay out fiber. It's not -- it's an expensive proposition. It gets amortized sometimes 7 to 10 years.

And now, with 5G, they have the ability to do that in a more economical way, and we're seeing some of the CapEx going into fixed wireless 5G. It's growing very fast. It's a material business right now in QCT. And we have very high engagement. There's probably over 70 devices now launched or in development for fixed wireless access, both across sub-6 and millimeter wave. And we expect that trend to continue. And it's a whole new business we added to 5G, in addition to the smartphones.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. And early days, and what markets are you starting to see the uptake of fixed wireless?

Cristiano Amon - *Qualcomm Inc - President and CEO*

It's across the board. It's from developed economies. There's a lot of activity in the United States, especially for rural broadband, but also emerging markets. It's becoming very, very active as well as in Europe. And the way to think about this, Mike, is the pandemic really underscored the value of connectivity, and the working from home or even the new enterprise needs broadband. We -- people want to do what we're doing right now, video. The existing networks in the past was not ready to do that, and that's driving a massive broadband upgrade and is taking 5G to the fixed segment as well, in addition of mobile.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. Maybe we'll switch gears. So let's keep moving forward to the automotive telematics and the digital cockpit opportunity. This business now exceeds $1 billion in annual run rate. And as I believe supply improves for autos, given supply constraints, I would have to think this business has some strong tailwinds over the coming quarters to years. I think you even shared you have a $10 billion revenue design win pipeline.

Can you discuss the competitive environment as I would think if you're a global auto OEM, shipping cars to like the U.S. and European markets, you almost have to go with Qualcomm's 5G leadership positions? But you know better than me. What do you -- how do you see the competitive environment and the growth opportunity in auto?

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Cristiano Amon - *Qualcomm Inc - President and CEO*

Look, I'll tell you, we're super proud, we're super proud of the automotive business. The automotive business probably is like the postcard of the Qualcomm diversification strategy and how transformative our technology is to the end markets. What's happened with the automotive, it's -- we've been -- we have a $10 billion contracted backlog. About $1 billion now is already turning into revenues.

And the way to -- the elevator pitch in the Qualcomm automotive story is, if you look at a market cap of companies like Tesla and you look at what happened with the automobile especially with electrification, you have a skateboard chassis, have batteries, and they have a computer on wheels connected to the cloud. I'm oversimplifying, but you get the message.

So for all of the other core OEMs, Qualcomm becomes the technology partner with capabilities across all domains. They help them transform their companies and build products that are equal or better than what has happened now with companies like Tesla, which the market is really looking at the value of the opportunity in the future of the automotive industry.

We're working with them and connecting the car with the cloud. This is just not about connectivity. You run connectivity. You run applications. There are application processors and AI at the connectivity box. Later, we're going to add Cellular V2X, car-to-car, car-to-pedestrian, car-to-traffic lights, and that's going to create intelligent transportation. That gets connected, what's happening with the in-car experience, the digital cockpit transformation. We see multiple screens, power bar silicon, whether it's the infotainment, the dashboard, the heads-up display, smart mirrors, the rear-seat entertainment, and those things are interconnected.

What happens on the telematics, for example, Cellular V2X, feeds into your mapping from the infotainment. You populate the map of the locations of cars and pedestrians and then your dashboard, looking at you with the driver-facing camera, whether you pay attention, which leads to the next opportunity for us, which is an extension of what we're doing, which is ADAS.

We think that Level 2+ ADAS is going to be as pervasive as cruise control, airbags and seatbelts. And it's going to drive scale. While full autonomy is going to still take a few years to get to scale, I think ADAS is going to drive scale, and we look at the natural extension of what we're doing. So automotive is a great story for Qualcomm. And we'll continue to probably build on our automotive platform.

As for your question about competition, I think, in one way, we compete with everybody or we compete with nobody because Qualcomm is in a very different position. We're really providing a system solution across multiple domains to the automaker, and we want to be the digital partner of the OEM industry.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

And it makes a lot of sense, and it certainly seems like you look at the cars from prior years with a -- maybe a 4G infotainment system to future cars, your content has to be going up very nicely. So maybe you can comment on that. I know you want to save some of that for your Analyst Day from prior questions with you. And also, just building on that, the rationale behind the Veoneer bid going on and maybe you can share where you are with that process and what they might add to your portfolio if you're able to close that deal.

Cristiano Amon - *Qualcomm Inc - President and CEO*

No, absolutely. Look, it's -- we're the natural owners of that asset. It's a natural extension to what we're doing in automotive. It just feeds into this whole conversation that we had about having capabilities on all domains and their computer vision stack, which is the Arriver capabilities, fits very well with our ADAS platform.

We started a partnership with Veoneer for the computer vision stack about a year ago. And we're the natural owners of the asset. We're very excited about that. I think Veoneer has publicly announced that they are engaged with Qualcomm. We think we have a superior offer, and we're excited about what the future holds. At the end of the day, you should think about Qualcomm being the technology provider of the auto industry as they move to digitalization, and we're going to have capabilities on all domains.

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Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. Can I just build on that answer, Cristiano? How do you think about the opportunity over the next several years? You have $10 billion in design revenue, when we know auto manufacturer design wins can take a while to production. But if you look -- for investors, if we're looking out 3 to 5 years from the $1 billion run rate you're on now, what kind of content per car do you see increasing or just revenue growth over a multiyear period?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Great question. 2 answers to your question. I think the first simple answer to your question is we have been winning a lot of designs. And usually, in the auto industry, you win a design a number of years before the car will go into production. I think how fast we got to $1 billion revenue is probably we'll continue to see that acceleration as many of the designs in the pipeline is going to compare it to revenue. And we're tracking ahead of the plan. So we're actually very happy about that. And we'll basically see the automotive business continue to grow as part of the total Qualcomm revenues.

Second part of the answer is we have an incredible road map to increase silicon content, incredible. And we're just at the very beginning of that. As I mentioned before, in the telematics business, which has started as connecting the car to the cloud, now you have the ability on top of that to add C-V2X, which is car-to-car, car-to-pedestrian, car-to-traffic lights. We're adding multi-SIM management capabilities, and you have an opportunity to have car-to-cloud services, which it gets built as applications on top of the telematics.

The digital cockpit transformation, it evolves with the evolution of the mobile industry. People drive their cars looking at their phone screens. And the reason they do that is because there's more technology in the phone than the dashboard. And that is now in the process of being -- transforming. We started winning all the premium, but we -- now, we see even entry-level cars with the opportunity to create a premium-type digital cockpit experience. That's why we're creating a multi-tier road map, and we see expansion that way.

And on top of that, you're seeing some of the entry-level cars, some of the services, they're coming from those platforms, can exceed the profit of selling the car. Think about with 5G and in a different digital cockpit, a car company will be distributing gaming content with streaming of games, we don't need a console, as well as live TV as well as advertisement to ride-sharing. So there's a lot of opportunities there. We see getting from hundreds of dollars of silicon, to thousands of dollars of silicon, especially as we add ADAS to the platform.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

That's great. And clearly, another business model, I have to imagine, is accretive to the overall company QCT margins. I'm going to switch gears to RF because I can already see in the queue here from people online a lot of RF questions.

So you, on your earnings call, you a made bold prediction that Qualcomm is going to become the leading mobile RF supplier by revenue. Most doubted at your Analyst Day in 2019 that you would achieve this 20% RF market share, which seemed a bold statement at that time. Can you share with investors where you are relative to that 20% share today? Because I think your goal was to hit it by next year. And then what gives you the confidence to be the #1 share in RF, particularly with how well you're doing on these high-end 5G smartphones?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Yes. No, thank you for the question. We are on track to become #1 in wireless. And it's amazing. There's still nonbelievers out there. Maybe we're down to one. Maybe we're down to one nonbeliever, I guess. But the growth of RF, it's incredible. It's been tracking our growth in 5G. We have now a very successful strategy divided in 2 approaches.

One, we win at the component level across every one of the components of the RF. We're now setting the benchmark of performance even on the higher frequency filter modules. And we win at the system level, thinking about performance more than plus RF, which is an OEM. If they want to

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do that, they have to work with a number of independent companies and do their own engineering or they can get the modem plus RF with a lot of capabilities from Qualcomm. And that has been the key differentiation.

In one interesting way, the RF is now differentiating the modem. And we expect that to happen because 5G is about managing frequencies and multiple radios on the devices. So we're very happy about that. That has opportunity to continue to expand as we take RF to other markets, as we bring connectivity beyond phones into our auto and our IoT segment. We're taking RF front end with it as a growth opportunity.

And we're ahead of our projections that we made at the last Analyst Day, and we're very happy. Designs continue to increase. And the people that don't believe, they can already see the tier downs and see the content. And the majority of it, sub-6, is not millimeter wave. Majority is sub-6.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

I think that's key to point out because a lot of people just thought you were a millimeter wave-only type RF company. And clearly, the tier downs are showing other. And I think another thing, just maybe you could touch on, just on the strength of your RF portfolio. I think you've shared that you're even winning some design wins that don't even use your modem, just showing the strength of your RF. Can you maybe expand upon that a little bit?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Yes. I'm happy to talk about the evolution. We started -- we knew that we needed to get -- as we look into the RF, as we started thinking about this, we knew we had to go to a process to acquire all the technologies, build a highly differentiated platform. And we use 5G at the entry point.

And as we enter with 5G, we saw a lot of traction, the designs. As our solutions get validated, the OEMs are seeing the benefit, and proven in the marketplace, to scale. They're starting -- expanding that in 2 areas. One is 4G sockets. So we're winning 4G sockets now, in addition of 5G. You had some confusion in the marketplace because we were showing growth, and our competitors were also showing growth of 4G and the market didn't know what was happening. But now we're growing into 4G as well.

The other one, we started to win RF without a modem into some of the platforms that have a competing baseband from Qualcomm. And I think this will just show what I said to you earlier. We're winning at the system level. We're winning at the component level.

And it's a great opportunity for Qualcomm. And as we noticed, it's about the same percentage of millimeter wave content. It's in the order of 20-plus percent. If we had a lot more millimeter wave in the market, we would need a bigger boat.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Yes. And before, maybe just building off that, just how do you see millimeter wave? And with China trialing it or using it for part of the Olympics, what could happen maybe in that market to really jump-start a more global millimeter wave?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Look, we're bullish about that, Mike. Of course, we have to see how it will gain scale. But here's what's happened with millimeter wave. We had said that, a number of times before, at the end of the day, at the end of the day, every 5G system, it's just a matter of time, will have existing spectrum converted to 5G with DSS. You have the mid-bands and you have millimeter wave at the top. It's just a matter of time. But we talk about what -- in the Mobile World Congress, we see now 150 operators doing pilots, investing or commercially launch millimeter wave. And we have our eyes on China.

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So where we are right now is China Winter Olympics is going to have China Unicom. It's going to have a number of use cases using millimeter wave capabilities, the higher bandwidth of millimeter wave, the low latency, the ability to create immersive experiences with cellphones as well as new type of devices. And the OEMs are designing phones for the China market with millimeter wave for the Winter Olympics. So that's on track. That's progressing very well.

The key question is once it gets started and the OEMs design those devices, where they can expand to the broader China. And of course, if that happens, it's an incredible upside to the Qualcomm model. Remember, when we talk about our 5G 1.5 multiplier, that assumes, the millimeter wave, it's concentrated in markets like the United States, in Japan and then Korea, coming up with some of the high-end premium devices, with everything else are fixed, and that's the 1.5 multiplier.

If China goes millimeter wave and takes that to scale, when the China ecosystem takes it to other markets as well, we have a much higher multiplier to talk about it. And that's why we're so excited and so focused to get millimeter wave deployed.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. We're going to switch gears. We're halfway through our time already, and we haven't talked about the smartphone market, but under your leadership, you certainly -- at QCT, you certainly helped broaden the revenue base to more than just smartphones and a lot of investors seem to still focus on.

Now that you're CEO, you get to oversee all that good work and hopefully continue to put up good numbers while you're there. But let's just switch gears to the 5G smartphone market opportunity. I've covered Qualcomm a long time, and it seems like a healthier high-end market than we've seen in a long time, healthier in terms of, one, your share; and two, there's just more customers to sell into.

Can you talk about how Qualcomm is doing so well in the premium to high-tier market? And then kind of a second leg to that question is just that $10 billion SAM that you've talked about with Huawei, where -- what inning do you think we are in terms of penetrating that $10 billion new SAM opportunity for Qualcomm?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Happy to talk about that. So the market for mobile right now and the 5G opportunity, it's a much better market than we had before because the market is not as concentrated. So if you look at what happened in the marketplace, the majority of the Huawei volume, think about Huawei driving a lot of premium devices in the past with the Mate series and the P Series, the winners of the Huawei volume already decided. It's Vivo, Oppo, Xiaomi. And incredible growth for those companies, both in domestic China as well as outside China. I'm going to give you some data points, and I'm sure the market is taking note.

Xiaomi is now the #2 smartphone in the world. And in Europe, in this last month, they were #1 in shipments. So you see that the growth is happening. It created an opportunity for those companies to climb up and continue to improve the mix towards high and premium tiers and made Snapdragon synonymous with an Android flagship in premium tier.

So let's see, to the point, to the point that when Samsung launches the Galaxy Fan Edition in India, which was the refresh of the Galaxy, your advertisement campaign was now with Snapdragon as a result of the incredible drive for Snapdragon by Xiaomi, Oppo and Vivo. So this is a much better market. We're highly differentiated. I think we become the premium alternative to the Android ecosystem, our customers, really, Samsung, Vivo, Oppo, Xiaomi, Honor. We launched Snapdragon 888 with Honor and 2 other devices in the high tier. So we're on our way to capture that opportunity. And it's incredible.

It's not often that you see a double-digit growth opportunity on a mature market such as smartphones growing at single digits. And we're very focused on executing that. And I want to give you a data point I'm sure that may be new to the investors. When we sell one premium Snapdragon

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800, when we sell one premium Snapdragon 800, it's a number of times, sometimes, we're talking about 4 to 5x, the silicon content revenue and earnings of selling just a 5G modem.

So we have an incredible opportunity, basically owning the premium-tier and the high-tier Android. And that creates one of the largest growth opportunities for Qualcomm and mobile in the 1.5 multiplier applied. So we're happy. This is a much healthier market for Qualcomm, and we're executing on this opportunity.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. And I think that's a great maybe lead into the Apple. A conversation always comes up with me and investors that caps the multiple of your stock is the worry, Apple doing their own internal work on a 5G modem. You just shared kind of the multiplier effect on high-end Snapdragon.

But even Tim Cook on his recent earnings call just talked about it's the early innings of 5G for Apple, how important 5G is to Apple. And I'm a bit of a skeptic that they're going to do their own modem and risk the quality of their franchise iPhones anytime soon. Can you maybe talk about Apple as much as you can in terms of their internal development and what Qualcomm can do to stay ahead of the curve?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Yes. There's a lot in this question, there's a lot in this question. But no, that's good. And I know we get this question all the time. I'm happy to talk about it. But I'm going to build, maybe my answer, I'm going to build the crescendo here because I think that's important, especially as this is a question that is on top of mind of a lot of the investors.

First of all, I wanted to go back and highlight that we're more than a mobile company right now. I think there's a tendency of trying to pin the whole Qualcomm in it's a mobile company and it's about whether they have or don't have the Apple business. We're much more than a mobile company right now. And I want to give you 2 data points that we talked about in the earnings call, that with all the incredible growth that we have with 5G right now, accelerated not only by the 5G transition, by the Huawei TAM opportunity, in the 1.5 multiplier, our mobile business is growing very, very fast.

The nonhandset business is growing at 1.6x mobile and represented 40% of Q3 handsets, 1.6x mobile growth and 40%. So much more than a mobile company. And then we have this incredible opportunity of the intelligent connected edge, which is growing side by side with the hyperscalers in the cloud. So the Qualcomm is much more than mobile. And hopefully, we'll continue to show the numbers and tell the story at the Analyst Day, and it's going to be crystal clear that of the opportunity for technology of Qualcomm, exists in every industry.

The second part of your answer, we are super focused on executing on this premium- and high-tier Android opportunity for the company, especially because of the multiplying effect. One premium tier replaces multiple modem-only solutions. Our customers are winning. Our customers are changing the mix. And the premium tier alone, the premium tier alone, is actually bigger than the Apple opportunity in Qualcomm.

So we're very focused. It doesn't happen that often that a $10 billion SAM becomes available in a mature market, and we're very excited about that. Snapdragon becomes synonymous in premium and high tier.

Now let's go -- with that understanding, let's go to your question. We're just at the beginning of an Apple relationship. We just launched one phone. We have a multiyear agreement with them. The relationship is great. And many companies have, for a number of reasons, for supply chain optimization because they have scale, sometimes have desire to develop their own modem. Here's how you should think about it.

If 5G is important and modem is important, there is always going to be room for Qualcomm in any of those companies, whether it's Apple or Samsung, because that's what we do for a living. Companies have many things that they do very well. Our #1 core competence is this, and we continue to expand on this, with networking and transition of vRAN and open RAN and private networks. We're going to infrastructure, modems

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becoming more complex, just going to the enterprise and industrial requirements. The modem road map is changing at a much faster pace than what we saw happen with 4G. We're actually tracking for 2 years ahead of the cycle development of 4G.

So if modem is important, there's a role for Qualcomm. But remember, we're super focused on executing on this Huawei addressable market opportunity, diversification of the company, and we're just at the beginning of the relationship with Apple. And as Tim Cook had said, it's just the first inning of the 5G game. We'll have a long way to go.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Exactly. I think that's a great answer. And maybe just you can clarify for investors, too. One thing I've encouraged investors to do, is because I think Qualcomm's multiple is too cheap relative to large-cap semis and just its growth opportunity, is the licensing business is separate. Even if Apple uses their own modem, they would still pay you licensing based on your agreement.

If you can clarify that for investors, then I would just encourage them maybe to do a back-of-the-envelope what they think the Apple is to the company, and you would still have a pretty cheap stock even if you took it out, which, like you said, you're in the early stages of a multiyear agreement. So who knows if and when that ever happens.

Cristiano Amon - *Qualcomm Inc - President and CEO*

I agree with you 100%. I think Qualcomm is a great investment because our technology is becoming relevant to a number of industries, with the beginning of 5G beginning of digital transformation. And about the licensing business, it's one of the most stable times in the licensing business.

We fought every single regulatory more that you could imagine. Our licensing business has been battle-tested in all jurisdictions, including China. Everyone is licensed. Even Huawei, licensed, and everyone is squared on their agreements. And it's about the use of our standard essential patents. It has nothing to do about using our chip or not. And it will continue to be part of the revenues from the licensing business regardless of the customers using Qualcomm modems or not.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

And let me just pivot since you brought up licensing just real quick. You have over 150 5G licenses. And like you said, it's quite stable. Some of the more worried long-term investors are already worried about 6G and what that could do to your licensing revenue. So maybe you could touch on why you think 5G might be a longer standard than even 4G was. And then I have a follow-up question from there.

Cristiano Amon - *Qualcomm Inc - President and CEO*

Yes. I think it's important to understand 5G. And I'm going to say this, Mike, I think there's a lot, I think, confusion in general still within the investor base and the industry about 5G. 5G is not unique to just phones. For example, one of the least understood, least understood features of 5G, is on-demand computing.

Once you have a very high bandwidth communication between your device and the cloud, those are like the same computer. You can think about this, just an interconnection between 2 computers, where demonstrated, for example, when companies started to move to hoteling and the flexibility of working from anywhere, instead of having workstations, 5G-connected laptops, you can do any workload. You can do computer-aided design, you can do professional video editing, just running on the cloud and using 5G.

It has the ability to connect robots. So you, instead of having a computer or on a server wired to the robot, you just do everything from the cloud. So it has a number of different use cases and applications. And as such, the features on the standards are now being catered not only to the

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smartphone end use, but many type of devices. For example, Release 16, with the second release of 5G, has ultra-reliable low latency, which, on one hand, will allow you to have a lot of industrial applications; on the other hand, will really pave the way for gaming to become streaming.

And the next console, maybe the last console, because now you have a remote control with the real-time ability to impact gaming that is playing on the cloud. And you talk -- you see Netflix talking about gaming. Everybody talking about gaming. Every mobile device can become a gaming console. So you see all of those things happening. And 5G is really moving at a fast pace with a lot more end markets.

Having said that, as you would expect, we usually invest 10 years before the new standard. I think Qualcomm has already worked in advanced R&D for the next evolution of wireless into what it would be the next generation. Very early to be talking about this because we're just at the beginning of the 5G ramp.

But here's one thing that I can tell you. We're running out of options for spectrum. 5G is going to use every single spectrum. So we continue to go into higher and more challenging spectrum. That will continue to reduce the number of companies that can adventure themselves into this field because you need a lot of expertise dealing with complex spectrum management and higher frequencies. Our success versus the competition of millimeter wave, it's living proof of that.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Yes. It seems like you guys are already working on patents, and technology will be a leader for 6G, so investors can expect the licensing business to hold up. Just given all those use cases you mentioned for 5G, and we've highlighted on the call how your nonhandset business or smartphone business is growing 1.6x and the fast-growing smartphone business because of the 5G upgrade cycle. How can licensing start to take advantage of some of these other markets in terms of the augmenting growth? Because it's my understanding that the smartphone market is -- the biggest consumer electronic market is still the lion's share of the licensing revenue.

Cristiano Amon - *Qualcomm Inc - President and CEO*

It's a great question. And I think that's another, I think, option on the Qualcomm model because, of course, the priority of our licensing business has been to stabilize the core and being very focused on the core license, which is what we always have done, which is license of standard essential patents for phones. And you're right, it's the #1 consumer electronics.

Now over time, as 5G continues to get deployed, and like we're still in the first innings of phones and we have all of those other industries to go, as 5G starts to get deployed, whether it's pervasive in autos, perversive in industrials, in the home and the overall broader IoT category, that creates expansion opportunities for the licensing business, in addition of the chip business. And we expect that to grow with 5G. As cellular becomes more important, I think it creates growth opportunities for all businesses of Qualcomm.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. A good question is coming in from the audience too on supply chain. Obviously, there's some global supply issues, and we've definitely touched on that. Can you elaborate on some of the multi-sourcing initiatives and activities to procure better supply for your customers?

And a concern for investors I get in some conversations too is while you're procuring more supply, some of your smartphone customers may be hitting some component shortages from other areas that might limit some of your sales in the back half of the calendar year.

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Cristiano Amon - *Qualcomm Inc - President and CEO*

Look, we continue to have more demand and supply across all businesses. And if there's one thing that we learned from this semiconductor supply crisis is many industries now realize the importance of semiconductors, which is a good thing. It's a good thing. I'll tell you, in one bizarre way, it created a lot of direct relationships between Qualcomm and many of the end customers given the importance of semiconductors.

Now where we are right now in the supply chain, we had said we'll see material improvements towards the end of the year. We're on track to do that. We basically took advantage of every possible capacity available. We multisourced a number of our products. Scale really helped us.

We're multi-sourcing from leading node to legacy node. We launched new multi-sourcing products in record time. I think we talked about the 778G in 6 nanometer. And we launched with a brand-new customer, which is Honor, one that we didn't have a relationship. And we'll see things improving.

I am continuing to be optimistic about the outlook of the industry for '22. 5G has been very resilient. Since the beginning of the pandemic, we reiterated our numbers for the calendar year. And based on what we have, line of sight, we're not that worried about demand. And we feel good about having the supply to start approaching the demand level as we get into 2022.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

That's helpful. Do you think -- you have a lot of marquee smartphone launches in the back half of the year, do you think as those get launched, that supply starts -- a lot of debate I get is maybe after these big launches, there starts to be some better supply to all these other industries like autos and others. So any thoughts on just timing for supply/demand, maybe reaches balance in other markets like autos and other areas that clearly you're playing into also?

Cristiano Amon - *Qualcomm Inc - President and CEO*

That's a very interesting question. And speaking of that, as of today, today, there's a very big announcement. I think Samsung just launched the Fold3 as well as the Flip3, both with Qualcomm chipset globally across all markets. And we will see then, as we get towards the end of the year, we're going to see a wave of launches of some of the devices for Chinese New Year.

Consistent with what we said before, today, we're short in every product line. There's not one product line that we don't have more demand to supply. But as we get into the beginning of '22, we're going to see improvement in supply across the board, from auto, from IoT, from networking component of the IoT. So we, at least for Qualcomm, we're seeing supply improving across the board.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. That's helpful. A question here just on the competitive environment. You've touched a little -- we touched a little bit on the big OEMs, like Apple and Samsung. You have some internal efforts. So maybe how do you see the long-term competitive environment, including MediaTek on the merchant side?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Look, we always had competitors. And as we expand to more industries, we're competing with different companies. So Qualcomm is a unique company. I think we're not just a technology licensing company. We're just not a semiconductor company, where we provide system solution, the hardware software across industries. And with that, we have different competitors. I will argue, we're probably competing with everyone and in some aspects, competing with no one.

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But specifically on mobile, there's plenty of opportunity for Qualcomm and for MediaTek. I think what has happened in the marketplace, with the opportunity that became available, that Huawei SAM, I think it allowed us to grow, allowed our competitors to grow. And we've been focused in where we can make a difference, in highly differentiated, which is premium and high tier. I think they have been more focused in some of the volume tiers in the mid- and the low.

And if I -- the best way for me to answer your question, if you look at what happened to our handset business, I know we've been talking a lot about the no handset, but our handset business, its Q3 '21, it grew 57% year-over-year, up $6 billion year-over-year. And that showed that it's growing. And I think there's plenty of TAM for both of us.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

No, I agree. I think it continues to be misunderstood on investors just how fast you're going and how early we are in 5G. Just demonstrating that growth and the leverage in the model, I've been arguing for a while, that with 5G margins, it would expand in QCT. And there, your guidance is even kind of 30% coming up for the seasonally strong quarters.

So as you look at EBT margins, they're about as strong in QCT since the early 3G days. Can you talk about where you see the margins may be going? I know you have an Analyst Day coming up, but can you talk about the expansion in margins, what's driving it and how you feel about new levels of margins going forward in QCT?

Cristiano Amon - *Qualcomm Inc - President and CEO*

Look, I won't be able to make a disclosure today, and I will talk more about it at the Analyst Day. If anything, I encourage the investors to attend the Analyst Day, but I'll give a qualitative answer.

The way to think about it is with 5G right now, we have a better competitive environment than we had before in 3G. We have multiple end markets, which exactly makes it more challenging for the road map and to further differentiate Qualcomm. We have our RF front end that creates a different level of differentiation. It's about the modem plus the RF. It's not about the modem alone or the RF alone. And we have new complexity, such as challenging spectrum such as millimeter wave. They put us in a better market, a better competitive environment and opportunities for the road map compared to what we saw in 3G and 4G.

And then the second part of the answer is we have now growth in a number of different end markets that no longer track the growth of mobile. And that is all accretive to margins because not only they're growing very fast, but they are reusing mobile technology. So it's all accretive to margins. And we've seen that effect in QCT, and that will continue. So we're very happy about the Qualcomm new model going forward. And we're looking forward with the opportunity. Hopefully, you rerate the company as we get to Analyst Day. There's a lot more than mobile in Qualcomm these days.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Yes. I think that's helpful. And just speaking about the -- harvesting all that 5G investment because you invest so much as a company upfront and then you start to bear the fruit of those investments with expanding margins. It's been fun watching your career. Now you're CEO of Qualcomm. Now that you have the CEO hat on, what are the areas of key investment for the next stage of growth for Qualcomm that you're focused on?

Cristiano Amon - *Qualcomm Inc - President and CEO*

That's a difficult question to answer because we have a lot of things that we're doing. But I will just -- I will highlight a few that are important. And now, we'll aggregate them around some of the key, I think, topics.

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One, we'll continue to be investing in modem and RF. I think that's #1 core competence. No wonder we call it quality communications, and I think that's going to -- are always going to be part of Qualcomm.

Second one is edge computing is becoming a fair -- a very clear opportunity for Qualcomm. Full conversions of mobile and PC already happened. With the advent of Zoom, the #1 use case in a PC is communication. When you think about hoteling, the on-demand computing with 5G will create a different type of connected PC.

So as you know, we bought NUVIA. We're investing to have probably the fast-performing and more power-efficient CPU to add to our already leading graphics and AI processors, so that we can create a very compelling edge processing solution. We are on a mission to own the connected intelligent edge as part of IoT segment. And those are technologies that are very important for Qualcomm. It's part of our investment.

The other one, you've seen it, and we're being deliberative and being public about it. We'll continue to invest in auto. That's a great opportunity for Qualcomm.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. So as we're running low on time here, maybe I'll take a question from the audience here. Qualcomm trades at a fraction of the multiple of NVIDIA and Texas Instruments and others. I think we've highlighted some of the areas. But Cristiano, as you interact with investors, what do you think is most misunderstood about the long-term Qualcomm opportunity?

Cristiano Amon - *Qualcomm Inc - President and CEO*

It's -- I think that there is -- it's a process. I think there's a lot of investors who still think of Qualcomm because of what we do in mobile. And it is -- the diversification of the company is misunderstood.

And it's not about the story. It's not about the trend. We have the numbers to show. Like I said, if $10 billion of nonhandsets revenue and accretive to margin doesn't do it, I don't know what does it. And I think that's the opportunity. What is really misunderstood is the association of what Qualcomm is doing at the edge, what is happening in the cloud.

I am convinced we are the partner of choice for the cloud-based economy as we connect to a lot of the enterprises, systems to the cloud that will become the key ingredient of the digital transformation. And I think that's unfortunately not well understood by the investor community.

The other part is -- but we talk about it. It's a new world out there. The mobile segment, it's not about do I have a modem in one particular account or not. I think that's great. We have -- we're doing great at accounts. We have many phones to go. But the important thing is what's happening in China and what's happening with companies like Xiaomi, Oppo, Vivo and in the premium tier. So I think investors need to get out more and see what's happening in China. It's a great new world in mobile and with the opportunity of Snapdragon 800.

Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. Well, Cristiano, I appreciate your time. As always, it's great to catch up. I hope you and your family stay well. And we look forward to seeing you at your November Analyst Day, which, hopefully, we'll all get together in New York to -- in November.

Cristiano Amon - *Qualcomm Inc - President and CEO*

Same here, Mike. All the best to you. Good talking to you. Thank you for the opportunity and the time.

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Thomas Michael Walkley - *Canaccord Genuity Corp., Research Division - MD & Senior Equity Analyst*

Great. Appreciate it. Thanks, everybody, for participating.

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