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# EDITED TRANSCRIPT

QCOM.OQ - Qualcomm Inc at Bank of America Global Technology Conference (Virtual)

EVENT DATE/TIME: JUNE 09, 2021 / 4:15PM GMT

## CORPORATE PARTICIPANTS

**Cristiano Renno Amon** *QUALCOMM Incorporated - President*

## CONFERENCE CALL PARTICIPANTS

**Tal Liani** *BofA Securities, Research Division - MD and Head of Technology Supersector*

## PRESENTATION

**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

Great. Thank you very much, everybody, for joining us again. I'm hosting my largest company and one of the most important companies in wireless, Qualcomm, I'm hosting Cristiano Amon, President & CEO-Elect.

For about 35 minutes of Q&A, I prepared a long list of questions. If you have any question that you would like to me to ask, there is a pilot system called Veracast that you've got an e-mail for or you get the link for. Please send me the questions over there, and I will surely ask your question.

So with no further ado, I want to thank Cristiano for joining us. Thank you so much. This is very important for us. And I want to ask maybe to start with a very general question that is on top of people's minds. If you can give us an overview of 5G deployments, global overview, what are the areas that are deploying is faster than others, where do you see momentum, et cetera?

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

No, very good. First of all, I say good morning to you. Very happy to be here, Tal. And this exciting time for Qualcomm, especially as we see a significant expansion of addressable market as 5G, as you pointed out, is creating demand for technologies everywhere.

And I will start answering your questions. We're very excited about 5G. The story of 5G has been great. I remind everyone, we accelerated 5G by 1 year, and we're tracking now at the rate of deployment and subscriber growth is probably now tracking about 2 years faster than the transition from 3G to 4G.

Now there are approximately 350 operators right now that are launch commercial services or deploying 5G in more than 100 countries. And what is happening right now is we see 2 things happening. Is developing economies have deployed 5G or building coverage, are using all the different frequencies of 5G. United States, a great example of that, started with millimeter wave.

They have the conversion of the existing frequencies to 5G, and then there's the mid-band coming. Europe started with the mid-band. And I think the next step, still early, but will be millimeter wave. China, it's a very large deployment of sub-6, the mid-band.

China is unique. We expect China to end the calendar year with close to 1 million base stations. So I think that's the scale of China. And we're optimistic that we're going to see millimeter wave coming in 2022.

The important thing, when we talk about the state of 5G is a device ecosystem switch first, ahead of the network. We didn't have that in any other transition. Remember, in the 4G transition, you had the network that didn't have any devices. This is the opposite. The devices are switching ahead of the network, and we're tracking to finish this year with about 0.5 billion 5G users in commercial operation.

## QUESTIONS AND ANSWERS

**Tal Liani** - BofA Securities, Research Division - MD and Head of Technology Supersector

Got it. The U.S. granted frequency recently, and there is a deployment schedule for the end of the year. Are we on schedule? And what is the experience you're seeing with the U.S. carriers?

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**Cristiano Renno Amon** - QUALCOMM Incorporated - President

No, we are on schedule. And maybe I wanted to use this opportunity, I think, to clarify a couple of things about 5G deployment. When you look in what we call the mid-band or the sub-6, and that's the area, which is easier to deploy, I think the operators can easily deploy that by go to existing sites and upgrading the equipment, and that is the fastest way for you to get coverage. As we get performance.

I'd like to provide this example. If you look at all of the spectrum holdings of the carriers over 3G and 4G, if you put them all together and aggregate them all, you may have 1 or maybe maximum, you have 2 channels of 5G. That's why this mid-band is important. And you can basically put digital in RF in existing sites.

In parallel, millimeter wave require more sites and because you have a more dense network. So what we see happening in the United States is millimeter wave deployment, it continues, especially with Verizon Wireless. Continue to expand, they launch new markets.

I would -- if you have to ask me about a city that millimeter wave coverage is starting to be meaningful. Chicago was a great example of that. But millimeter wave takes time. And it's easy to describe this, you have to add new sites, you need site permits, you're negotiating municipalities with municipalities.

Sub-6 and the new mid-band is going to build coverage very, very fast. And the simple answer to your question is, we are on track, but 1 thing, as I look at that as incremental to the activity we already had in place.

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**Tal Liani** - BofA Securities, Research Division - MD and Head of Technology Supersector

When we talk about 5G, and I want to go back to millimeter wave when we talk about semiconductors. But when we talk about 5G for the first time, we talk about enterprise deployments, enterprise applications. Can you elaborate on what's driving deployment right now? Is this mostly consumer? When are we going to see enterprise application, just to understand the pace or the order in which this market evolves?

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**Cristiano Renno Amon** - QUALCOMM Incorporated - President

Yes. Consumer is first, and it is the easier -- it's easier to kind of understand it because you -- the device switches, we are moving towards unlimited data. The operators want unlimited data plans to be on 5G because it's a lower cost per bit.

And the applications on the consumers are kind of easy to see how existing applications perform better like video. And then you have more streaming, the upcoming, having streaming of games, and all of that. However, I want to talk about the enterprise a little bit because there's a lot of activities on enterprise, but you just need different building blocks in place.

And the simple way to describe the role of 5G and the enterprise. The enterprise always had its private telecommunication network. It was the PBX for voice in the Wi-Fi network for data. But now the enterprise is going to build 5G as well. And as they build 5G, you have a different set of applications in different players.

So what we see right now is there's a lot of activity, first in getting countries to assign license for private 5G, you see that in the United States, you see that in Europe, and it's going as those license get in place. Also, you have a lot of technology development.

A great example of the upcoming role of 5G in enterprise, if you look at companies like Microsoft, there has been very focused on the enterprise cloud acquiring a firm network, for example, to build a core, they will connect to an enterprise 5G RAN.

And what we see right now is there is a significant activity, but deployment may be about 1 year away. And we see that in manufacturing. We see that in industrial, we see that in retail, we see that in oil and gas, we see that in energy, and there's a lot of different players embracing 5G technologies for private deployments.

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**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

Great. I want to order my questions in the order of importance to clients. So the next question is not related to what we discussed, but it's related to your recent quarter. Can you discuss supply constraints and the implications for Qualcomm? And how -- what's the evolution of supply constraints over the next few months and quarters?

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

Yes. Maybe I'll quickly -- I think, Tal, kind of remind everyone of the reasons we have supply-constrained right now across the industry. The pandemic really increased the level or the floor level of digital as a percentage of all the economy. So we saw an increase in consumption across the board.

Great example of that it was the enterprise transformation of the home. I think the acceleration of digital transformation of many enterprises as they want to get connected with their assets, which is, by the way, a very good proxy. We'll talk about that later, why our IoT business is growing.

So you have that, then you have another thing that's not easy understood, which is you have Huawei driving 200 million handsets per year. And all of a sudden, that became available for supply chain that was not ready to take that 200 million incremental TAM.

So I think that causes an issue. The issue #3, is you had industries, like the automotive industry, they are notorious for being through years of embracing the just-in-time model. When the pandemic started, cars were not selling. Inventories were brought down to 0 and then when you have this V-shaped recovery, particularly that industry, you had a spike in demand.

So you put all that together, we have basically shortage in every semiconductor technology. It's companies that try to narrow the problem to 1 or the other. I saw the issue there is not a single node that you don't have now more demanded supply. Here is the good news. The good news is it's good to have scale. So we have, based on our scale, even with the supply constraint, you see that our numbers are going up, and we're very happy with the growth, especially we saw in the quarter and the guide.

But most important is, we have been redesigning products across different sources, making sure we get all the different supply that is available to us, we had leveraged the fact that we have multi sourcing, one of the few companies that actually multi-source the leading nodes and we put capacity plans in place, those take time as the semiconductor manufacturers have to bring in new equipment.

And we're going to see those coming into online towards the end of the calendar year. So it is definitely an issue. We have more demand to supply. We're happy with the numbers, but if we have more parts, we'll ship more. But we see that we're going to start to equalize supply and demand towards the end of the calendar year.

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**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

Got it. Got it. Another question that I've been asked repeatedly is your diversification appetite for in-house versus M&A, meaning organic versus inorganic R&D. One of the areas that we're being asked about these data centers. And what are your plans about data centers? What's your view on, first, the market attractiveness for Qualcomm? And second, how do you get to this market organically or inorganically.

**Cristiano Renno Amon** - QUALCOMM Incorporated - President

Okay. That's a great question. And I think there's 2 questions in there. One question is M&A versus organically for diversification of the company, then there's specific data center.

Let me take the first 1 because it's a broader question. You're going to see a huge focus of the company in diversification. We started a few years ago when I -- 2018, when I became President of Qualcomm, we put together a strategy to have different business units for different market segments, building on this driver that there's demand for technology in other industries and that will continue to be the company focus, if anything, it's a little bit more intense going forward.

The key thing is we're always going to do great in mobile, but there is a better or bigger SAM for us if we continue to apply our technology to other industry. Automotive is a great example of that. So the company will continue to focus its diversification strategy also because it's highly leveraged. We leverage the R&D that we do for mobile. Therefore, it's accretive to earnings, and we're showing that in the results.

And in order to do that, most of our M&A strategy will be directed towards the growth vector. So we have put together a plan that allow us to grow organically. I think our organic success is part of the trends are moving towards the products that we have. That's why we see. The automotive transformation at the car gets connected to the cloud. You look at the IoT, you move to our assets. That's why we succeed organically, but we think we can -- there is opportunity to grow faster. Also looking M&A. We're looking into that, but it's always going to be focused in the diversification segment.

Now specific to the data center. Look, I want to use this opportunity to be very clear. We have an incredible opportunity for us when we -- at the Intelligent Edge. When I look at what's happening in the hyperscalers, if you look at the valuation that you see today for Microsoft, for Amazon AWS, and you go in and you look at their investor's presentation, they talk about this intelligent edge is going to be connected to the cloud, sending data to the cloud. And as a result, creates or has the exponential growth in the data center.

The data center, it's not an area of our core constraints. I think we don't have a lot of the assets for the data center, but we have an incredible opportunity to be the company that could own the intelligent edge space. And I think that's what you see us doing within our IoT segment.

So at this point, we don't have plans to be focused on the data center. But instead, how we actually drive the intelligent edge that will be creating that traffic for the data center. And our ambition is probably going to go all the way to the edge, like we're doing that today. When we think about the edge opportunities, whether it's in networking, whether it's in local clouds with inference processor. We have an interesting edge processing opportunities in some design wins, and we're very excited about that.

But we're not today thinking of going into the data center.

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**Tal Liani** - BofA Securities, Research Division - MD and Head of Technology Supersector

Got it. Got it. I want to switch to QTL. I am getting questions from clients, but I'm just saying it to investors. I'll get to them when I get to the right topics. I want to switch to QTL. Last quarter was a phenomenal quarter, you grew 51%. What's driving the outperformance? I know there was \$80 million of adjustment of Q1 revenue, so let's put it aside. What's driving -- fundamentally, what's driving the growth so strongly this time of the year?

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**Cristiano Renno Amon** - QUALCOMM Incorporated - President

Well, it's 2. I think 1 is the market demand is strong. And we -- in general, we see that the phone market has been more resilient than people had predicted with the pandemic. We kind of understand that. That's why in the very beginning, even prior to the pandemic and after the pandemic, we always maintain our 5G projections. Because communication it's actually became essential during the pandemic. So that's one.

5G transition improved the mix. And we're seeing the market moving towards premium and high tier. So those things, they end up having positive impact on our licensing business, especially when you look at the mix of ASPs had the devices as well had devices sell-through.

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**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

I want to ask about sustainability of 5G licenses. Hypothetically speaking, when we migrate to a market of 100% 5G, meaning all the 3G, 4G are going to networks, will decommission, and it's all going to be 5G over. How is -- how do you view your strength, licensing strength in an environment where the market is entirely 5G.

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

Okay. So first, I want to talk about that from a technical standpoint. Because we always -- we heard that question before -- when in 4G single mode, right? I remember having that question about 4G single mode and still today, you don't find a 4G single mode. You still see 3G and some pieces, you see 2G and the devices.

So first of all, when you think about the mobile market, the mobile market, by definition, is a multi-mode market. And when you talk about single-mode 5G, you're talking about -- we're talking about decades. And the first thing that you're going to see yes, you're going to see 3G being decommissioned as some of the frequencies get reformed.

And I'd like -- we never answered a question that way, but I'll say, we -- our license agreements, they go to renew phases, I think even before those single-mode things even happen. Now let me answer the second part of the question. We have one of the most stable times in our licensing business. I actually don't recall in my 25 years at Qualcomm that we had a situation like this. When everyone is licensed, and we don't have any dispute. Everyone is licensed, Huawei is licensed, and everyone in China as well as in the global marketplace.

QTL, it's a great business. It's a great contributor to earnings. It drives a lot of the fundamental R&D research. It's always going to be part of Qualcomm. And the way I look at the business is we look about the business as being a very stable business. This growing with 5G.

And there is optionality for it. We don't talk about it because it's too early. But there's optionality. If you believe that in the long run everything is connected to 5G. And 5G is the last mile technology that will connect everything to the cloud. Standard essential patents are valuable. And there is opportunity for the licensing business to grow with the technology.

But right now, the focus is -- it's a stable business. Everyone is licensed. We're just the beginning of the 5G ramp. And it's a great contributor to earnings of Qualcomm as we grow the semiconductor business.

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**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

On the last call, you said something interesting is that that you expect the 5G patents to have a longer life cycle than prior generation? What does it mean?

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

Well, this is another thing that is actually not well understood I think, by the industry about 5G. And it gives me a minute to explain because I think it's a very important information.

Everybody understands that 5G has more use cases than phones. Everybody understand that. I think as a general statement, people, they can see that. And if you look at what's happening with some of the 5G releases, for example, when you go from early '15 to early '16, early '17, what you

see is you have a number of different features and technologies and techniques, which are geared towards different types of applications than the mobile phone. Especially, you see a lot of features coming that enable industrial enable mission-critical, ultra-reliable, low latency and so forth.

And for example, for a lot of the industrial applications, there's a lot of features in the 5G standard, for example, for position location, 3D centimeter level accuracy and all of those things. So therefore, is the first thing that you're going to see is the road map for this technology, it's a lot more complex and there's a lot more frequent, big updates than we have seen in 3G and 4G.

So you have a road map of different revisions of that that you keep adding new IP, and that will continue over time. So I could predict that, in general, within Qualcomm, we kind of time every generation lasts about 10 years, 5G is going to last more because especially when you look at some of the other industries, they have different cycle times than you have for phones.

So that creates a very long runway for standard essential patents for our 5G portfolio. And you can see how you continue to add IP and you extend the life of that intellectual property just because you're just going to have a lot of upgrades.

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**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

Right, great. Last question on licensing is about non-smartphone royalties. It will -- so I have -- and it's just me asking the question. I have a problem with the numbers, meaning, smartphone is the 1 unit that sells the most or 1 device that sells them the highest number of units in consumer electronics. It's an expensive device. It's -- your selling is about \$400.

And even if you're getting 2% royalties, you're talking about \$8, \$6 at the top end. Is there -- will there ever be importance or significance to non-smartphone royalties, given the volume of smartphones and given the price of smartphones.

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

Okay. So look, this is a good question. And I think we kind of stay away kind of from making predictions, but I -- as I said before, I do like the optionality, I think, that exists for Qualcomm in the business.

We have a lot of module level licenses, especially as you take 5G technology to a number of different other devices and the promise of 5G unlike the other generations of wireless is to reach more devices. Agree?

I want to go back to the conversation we have at the beginning of the call. The enterprise is going to switch from Wi-Fi only to Wi-Fi plus 5G. So those things will increase the overall reach of this technology. Think about a lot of 5G devices going into robots, into smart cameras.

I'd like to think when people ask me this question, I'd like to put the camera example because it's easier to say today, when you think about smart cameras, people think about cameras, for example, home surveillance. But just think about a smart camera, for example, in a manufacturing line that are connected straight to the cloud to 5G. There's nothing on it. There's no computer, there's no server. And in every manufacturing line, you see a camera looking off the finished good and comparing with a template to say to the quality control.

But the opportunity for you to deploy cameras for different use cases is vast. So once there is a realization that those are 5G devices, you started to increase the footprint of the use of our 5G technology and that creates opportunity for expansion.

No, it's very difficult to make some of those predictions, and we've been staying away from make predictions. But there is no question the smartphone is always going to be the main driver. But we're just the beginning of the 5G transition. There's a lot of opportunities.

**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

Got it. Okay. When I prepared my questions, I know that I'm not going to get to half of them. Now I think I'm not going to get 1/4 of them. So I'm going to ask you about -- I'm going to switch to QCT with your permission. Again, I'll start with the general question. Last quarter, you grew 53% phenomenal performance. What are the drivers?

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

It's many. I think, look, we are very happy in our semiconductor business for lack of a better description, is firing on all cylinders, right? And I think the drivers are mainly. Number one, 5G. It's growing. We're expanding. In 5G, I will highlight 2 things, right? One is you continue to see this drive for 5G devices.

But the most important thing is we have an opportunity that is to grow into the Huawei addressable market. And that's a lot of premium and high-tier devices. We like 2022 fiscal is that we can fully realize the opportunity, but we started to see that had an impact especially growth in premium of some of our customers like Vivo or Xiaomi. So that's 5G in general, plus that opportunity is driving the mobile business.

RF one end, I think despite the skepticism of the industry, we're doing great in our front end. We did disclose that most of it is sub-6 and 4G, not millimeter wave as people would think. It's less than 20%. We're just at the beginning. So that's another driver, and we're very well positioned to be among the largest provider of front end.

But then you have automotive that we're doing well. And IoT, we had 2 quarters of over \$1 billion, we guided \$1.3 billion. So fortunately, there's not a single segment of our semiconductor business that is not in a growth trajectory, and we're very happy with that.

And it also feeds into that whole conversation about the opportunity to diversify the company.

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**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

There was 1 day -- there was 1 day a few weeks ago that Apple announced that they'll be using their own modems. Those of us like us that expect -- the total de stock expected to happen when they even what they've said before and actions they've taken.

But the question I have for you is, can you describe your relationship with Apple? Is there a big player? What kind of implications there are for Qualcomm and what's the plan B? What do you do when one of your big customers is moving to self-production?

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

I know you have a lot of questions to go through. But this is -- and I'll try to be succinct in my answer. But because I get this question all the time, I think maybe it's an opportunity to provide, I think, to some of the investor's clarity.

So you needed to understand this and there's 3 distinct pieces of information that are relevant to answer this question. Let's just go with the very first one. We have a multiyear agreement with Apple. It includes multiple iPhones. We just did the first one. So we are in the very beginning of this agreement. We're in the first inning of this game. We have more phones to go. So we're just at the very beginning. And we're very happy about that. It's a great opportunity for Qualcomm.

You're definitely going to see more than 1 iPhone with Qualcomm, as I said, we just hit first iPhone of what is a multiyear agreement. And it's a great opportunity for Qualcomm, which we focus to execute. That's kind of #1.



Now #2, it's a completely different conversation. There's a lot of surface area within Apple for a modem. Like we believe we're 100% convinced that computing devices in general, like PCs are going to be connected to 5G. I'm sure you're talking to me right now, looking at your computer. And you just realized that the #1 use case for PC right now is communication.

So PCs are going to be connected devices. So you're going to have modems for phones, for watches, for PCs, for tablets in many other devices. Yes, you could have a situation that a company will have all those different modems, and they're going to do 1 design that 1 size fits all. Or you're going to have a situation that there is opportunity for having in-house modem and another supplier.

And I'd like to always refer in my answering investors we have been dealing with Samsung being a large customer and have their own modem for a long time now. We're not new to this game. And I worked that our relationship with Samsung is very stable and growing. So you could imagine that there could be an opportunity for Qualcomm if we continue to have the best modem in the industry.

And 1 thing that will never change about Qualcomm that's our #1 core competence. Other companies do many things and they do many things well, and I have a lot of respect for that. The #1 core competence of Qualcomm is modem technology. So as long as modem continue to matter, the road map continue to add new features. I just told you about how the 5G road map works. There's always going to be room for Qualcomm.

But now I want to talk to investors about Part #3. It's not -- when you ask me about, to plan B. It's not about a plan B. And I communicated it very clearly in our last earnings call, when people ask Qualcomm, what is your mobile strategy? And my answer is very simple. Our mobile strategy is premium and high-tier Android.

And we have an opportunity right now in front of us. That nobody expected. You don't see in a mature market like mobile, the opportunity to see a 10 expansion at the size we're seeing on at the expense of HiSilicon. You don't see that in the market that is maturing is growing single digits.

In just the premium tier, just the premium tier alone is bigger than Apple. What I'd like investors to understand is, when we sell 1 Snapdragon 800 to a company like Vivo, OPPO, Xiaomi, or if they're even Samsung. When we sell Snapdragon 800 is equivalent to be selling 4 or 5 modems to Apple. So and all of a sudden, we have this incredible TAM in front of us with Huawei in just the Snapdragon 800 tier is a bigger than Apple opportunity.

So we're very excited about that. That is our mobile strategy, and we are just at the beginning. 2022, we're going to see the full TAM available to us, and we're very excited about that.

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**Tal Liani** - *BofA Securities, Research Division - MD and Head of Technology Supersector*

Great. Great. Another question that you touched on is the RF opportunity. 14% of QCT last quarter, it increased 39%, phenomenal performance versus expectations only 2 years ago. Can you discuss your position? What are the growth areas? What is your angle to the market? Why are you so successful in RF?

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

All right. So a lot in there. Let me take in reverse order. Why we're successful in RF. There's -- the first answer to the question is Qualcomm is not a component company, unlike some of our competitors. We're not an implementer of standards. We're not a component provider or a creator of standards. We're a system company. So we look at everything as a system.

And 5G it's a lot of system and RF engineering. When you think of, for example, of millimeter wave technology, and I'll talk about that in a second, I know you have a lot of questions about millimeter wave. But millimeter wave technology about managing multiple beams of RF. And Qualcomm can design this as a system.

When we talk about our RF solution, we have everything. We have from the tracker to the power amplifier to the filters, to the switch, to the tuner, in some cases, the antenna itself in the case of millimeter wave. And that allow us to create a system-level that not only we have better performance at the component level.

Nobody, for example, thought, it will be possible to compete with FBAR in the high bands. Our ultra-saw today exceeds the performance in the high band. So there is no dispute, and I'll tell you about that because we're winning at 4G, and we're starting to win when there is not a Qualcomm baseband.

But we win at the component level, and we win at the system level. That's very unique to Qualcomm. The other thing is unique to Qualcomm is when we design our chips, we built reference platforms with our front end, we take around the globe, and we test and validated across all the carriers. So when an OEM look at the Qualcomm solution provided is already tested, is already tested, ready for commercial. And we have done all the engineering, plus the OEM has to pick all the components from different companies put it together in the system and go, validate that.

So those are very high and sustainable differentiation of our FRM business. It's an open platform, but -- and the customers can pick what they want. But we provide a highly engineered solution with an incredible system performance to them.

The other part to your question, most of what you see in the numbers today, is sub-6, and we started to win for 4G as well. So that, if anything, is a testimony, they hopefully did clear the confusion that people were thinking, "Oh, with this business it's just about millimeter. Millimeter wave is less than 20%. In transceiver is not included in this business, transceivers included in the handset business.

So it's truly our (inaudible) component is about sub-6 and 4G. Now millimeter wave is less than 20%. We believe that millimeter wave is going to grow, like if you assume for a second that 2022 when China starts for millimeter wave, that gets a larger deployment. You can see what that will do to the market. And when we talk about the 1.5 multiplier from 4G to 5G, that 1.5 multiplier is assuming that there's millimeter wave only in the United States, Japan, and Korea.

And you -- is reflected in our numbers less than 20%. If millimeter wave gets, for example, to China, you're talking about a much bigger number than 1.5. And then you can also see the impact on the RF front end revenues if this is more than 20%. So we're very excited about this business. And we're winning with a sustainable differentiation and I think that's going to continue to be a very big growth driver for QCT.

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**Tal Liani** - BofA Securities, Research Division - MD and Head of Technology Supersector

You have to promise me to come next year again because I have another 75% of my question. So I'll ask you next year. Because we ran out of time. Thank you so much for being with us today. Thank you so much for the enlightening answers and to all the investors. There are a lot of questions we didn't get to discuss some of the questions you sent me if you have any questions, please don't hesitate to call me. I'll do my best. And if I don't know the answer, I'll approach the company for an answer.

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**Cristiano Renno Amon** - QUALCOMM Incorporated - President

Yes. And Tal, please don't -- please send us the questions, we'll make sure our team give you the answer. So happy to engage and happy to talk to you at any time. Thank you for the opportunity.

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**Tal Liani** - BofA Securities, Research Division - MD and Head of Technology Supersector

Thank you. Have a great day. Thanks.

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**Cristiano Renno Amon** - *QUALCOMM Incorporated - President*

Thank you, you too. Bye-bye.

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