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QUALCOMM, Inc. (QCOM)

Q4 2019 Earnings Call

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MANAGEMENT DISCUSSION SECTION

Operator: Ladies and gentlemen, thank you for standing by. Welcome to the QUALCOMM fourth quarter and fiscal 2019 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 November 6, 2019. The playback number for today's call is 877-660-6853. International callers please dial 201-612-7415. The playback reservation number is 13695634.

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

Vice President, Investor Relations, QUALCOMM, Inc.

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 a replay will be available on our website later today.

During the call, 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.

Steven M. Mollenkopf

Chief Executive Officer & Director, QUALCOMM, Inc.

Thank you, Mauricio, and good afternoon, everyone.

We are pleased to report strong results in the fourth quarter, with non-GAAP earnings of \$0.78 per share, above the high end of our guidance range on solid performance in our licensing business. We were also pleased to see our licensing revenue return to a seasonal pattern, with fiscal Q1 as a high based on our recent licensing agreement with Apple.

Over the last several years, we have invested to establish QUALCOMM as a leader in 5G. As a reminder, 5G brings a significant increase in complexity over 4G such as new and dense network architectures, high-performance basebands, advanced RF front-end designs, increased processing requirements, in addition to driving the leading-edge process node.

We are actively focused on helping to define and standardize Releases 16 and 17 features to support the expansion of 5G into new large adjacent markets, such as enterprise, industrial IoT, and automotive. The complexity and expansion of cellular technologies beyond the smartphone into nearly every industry play directly to QUALCOMM's strengths and are why we believe 5G will represent the single biggest opportunity in QUALCOMM's history.

Looking ahead to fiscal year 2020, the company remains focused on these three key priorities, number one, continue executing on 5G with our partners around the world. The number of OEMs and operators launching 5G products and services continues to increase throughout the year. There are now over 40 OEMs and over 30 operators launching or announcing 5G products or commercial service, up from approximately 20 OEMs and operators respectively at the start of the year. Looking forward, we expect 5G to launch in all regions within the next two to three years.

On the product side, in September we announced plans to accelerate 5G global commercialization at scale by expanding our portfolio of 5G mobile platforms into the Snapdragon 7 Series and 6 Series, launching as early as calendar Q1 2020. Our integrated 5G SOCs will support both sub-6 gigahertz and millimeter wave at the volume tiers across all geographies.

As we continue to expand our 5G product portfolio, our design wins are also increasing. We now have over 230 5G design wins launched or in development, up from 150 in the prior quarter, virtually all of which are using our RF front-end solutions for 5G sub-6 and/or millimeter wave. Notably, multiple OEMs are now shipping or have announced their second or third 5G device models using both our Snapdragon 5G core chipset and our modem-to-antenna RF front-end solution.

In Korea, the migration to 5G continues at a strong pace. According to the Korean Ministry of Science and ICT, Korean operators have already signed up 3.5 million 5G subscribers through September, a pace that remains faster than its migration to 4G. Additionally, 5G millimeter wave services are in planning stages by Korean carriers for calendar 2020.

In the United States, Verizon has committed to deploy 5G Ultra Wideband millimeter wave in 30 markets by year end, and T-Mobile separately announced plans to cover 200 million people with 5G on 600 megahertz before the end of this year. And in Europe, there are multiple 5G launches across Switzerland, Italy, the United Kingdom, and Germany.

In China, all three mobile operators commercially launched 5G services last week, bringing 5G to the largest smartphone subscriber base in the world. We now estimate that by the end of this year, the three operators will deploy a total of approximately 130,000 5G base stations. We further estimate that by the end of 2020, 5G base station deployments will increase to approximately 1 million, which to put in context is 10 times the scale of the entire network of a large U.S. operator.

Lastly, TSMC recently attributed the significant increase in demand for their leading technology nodes to a stronger outlook for 5G deployment next year. This is yet another significant indicator of the 5G ramp into 2020.

Second priority, to expand our technology platform into adjacent industry segments. In automotive, we are very encouraged with the engagement and design win traction we are experiencing from automakers and Tier 1 customers with our telematics and third-generation Snapdragon automotive cockpit solutions. Our design win pipeline has now increased to almost \$6.5 billion, up from \$5 billion at the start of the fiscal year, giving us great

visibility into strong growth in auto over the next several years. Over time, as the technology roadmap in auto converges with the cellular roadmap, we expect to see an increased opportunity to lead in new product categories, notably ADAS.

In compute, we continue to build traction in the Windows on Snapdragon always on, always connected PC category. In August, Samsung announced the Galaxy Book S based on the Snapdragon 8cx. This is Samsung's second Windows on Snapdragon device and the first announced Snapdragon 8cx always connected PC.

In October, Microsoft launched the Surface Pro X, our first design with Microsoft in this premium tier, powered by a Snapdragon 8cx variant that is designed for the always-on compute environment, the Microsoft SQ1, developed in partnership with Microsoft. This is the thinnest Surface ever and has 3 times the performance per watt as a Surface Pro 6.

Priority three, drive revenue growth, operating leverage, and earnings per share. Consistent with our comments last quarter, we continue to expect a positive inflection point as 5G ramps beginning in our fiscal second quarter. With the conclusion of our cost plan and significant share repurchases over the last year, we are poised to deliver margin expansion and outsized growth in earnings and earnings per share as revenue growth accelerates.

We are pleased with the progress we have made over the course of 2019 and believe the business is very well positioned for sustained long-term growth as we benefit from the decisions and investments made over the last several years, including 5G, the return of Apple licensing and product revenues, growth in RF front-end, and growth in adjacent businesses.

Before I turn the call over to Akash, I'd like to congratulate him on becoming QUALCOMM's Chief Financial Officer. As QCT finance lead for the past four years, Akash brings a deep knowledge base of our company, both operationally and strategically. I'm looking forward to working closely with Akash as we enter this next chapter of our history.

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

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

Thank you, Steve, and good afternoon, everyone.

It is a very exciting time to become Chief Financial Officer of QUALCOMM, and I'm looking forward to engaging with our shareholders and analysts. I will begin with a discussion of our fiscal fourth quarter earnings.

We delivered strong results with non-GAAP EPS of \$0.78, \$0.03 above the high end of our guidance range, and revenues of \$4.8 billion, above the midpoint of our guidance range. The outperformance in the quarter was primarily driven by QTL on higher units and stronger mix, resulting in QTL revenues of \$1.16 billion and EBT margin of 68%. As a reminder, we did not record any royalty revenues from Huawei in our fiscal fourth quarter results.

QCT delivered revenues of \$3.6 billion and 152 million MSM chip shipments, in line with our expectations for the quarter. QCT's EBT margin was approximately 14%, flat sequentially and at the midpoint of our guidance range.

Turning to fiscal 2019, we recorded \$19.4 billion in non-GAAP revenues and \$3.54 in non-GAAP earnings per share. During the year, we achieved several key milestones that position us favorably for fiscal 2020 and beyond.

First, our early investments in 5G played a key role in accelerating 5G deployments, and we have secured over 230 chipset design wins. Second, we completed the acquisition of the remaining interest in RF360 Holdings and established a strong design win pipeline for RF front-end products across 5G sub-6 and millimeter wave devices. Third, we signed global patent license and multiyear chipset supply agreements with Apple. Fourth, we concluded our cost reduction plan, announced in January 2018. And lastly, since our July 2018 announcement, we have completed approximately \$23 billion in stock repurchase through fiscal 2019 at an average price of \$65 per share, resulting in a 22% reduction of our shares outstanding.

Turning to our outlook, we are maintaining our estimate of 1.7 billion to 1.8 billion units for calendar 2019 for global 3G, 4G, 5G device forecast. For calendar 2020, we are estimating 1.75 billion to 1.85 billion units, up approximately 3% at the midpoint, reflecting flat handsets and low double-digit growth in non-handsets. We are estimating 175 million to 225 million 5G handset units in calendar 2020.

Consistent with our comments on our previous earnings call, our business outlook is impacted by several factors, including weaker demand in China and certain developed regions, Huawei share gain in China, and OEMs managing 4G inventory ahead of the transition to 5G.

Turning to our first quarter guidance for fiscal 2020, we expect revenues to be in the range of \$4.4 billion to \$5.2 billion and non-GAAP earnings per share of \$0.80 to \$0.90. We estimate fiscal first quarter QTL revenues to be in the range of \$1.3 billion to \$1.5 billion and EBT margin of 70% to 74%. We expect QTL revenues to be up 21% sequentially at the midpoint in our fiscal first quarter due to normal holiday seasonality, driven by timing of flagship phone launches. Our fiscal first quarter forecast does not include any royalty revenues from Huawei while we continue to pursue a negotiated resolution of the licensing dispute.

With the completion of the global patent license agreement with Apple earlier this year, QTL revenues will begin to reflect a seasonally high fiscal first quarter. Following this seasonal uplift, we expect QTL revenues to return to a range of \$1 billion to \$1.2 billion in our fiscal second quarter.

In QCT, we estimate fiscal first quarter MSM shipments of 145 million to 165 million units and EBT margin in the range of 10% to 12%. QCT's EBT margin guidance reflects lower volume in the premium and high tiers, driven by a pause ahead of the transition to 5G in early calendar 2020 and the normal timing of handset launches by our customers in these tiers.

As we look beyond our fiscal first quarter, we see a significant inflection point for QCT as we expect to realize the benefits from the ramp of 5G handset launches. In the fiscal second quarter, we anticipate QCT revenues to grow in the mid-teens sequentially and QCT EBT margin to return to the mid-teens.

In our fiscal first quarter, we expect non-GAAP combined R&D and SG&A expenses to be flat to down 2% sequentially. As a reminder, expenses are typically higher in our fiscal second quarter, as it includes the normal calendar resets for certain employee-related costs.

Interest expense net of investment and other income in the fiscal first quarter is expected to be approximately \$100 million, and is a reasonable estimate for each of the remaining quarters in fiscal 2020.

For our fiscal first quarter, we also estimate approximately 1.16 billion weighted average shares outstanding and a tax rate of 14%.

Looking forward, 2020 is an exciting year for QUALCOMM, as we expect the financial upside of our 5G strategy to begin to play out with multiple drivers of non-GAAP revenue and earnings growth, including the launch of 5G devices, RF front-end design win traction, growth in adjacencies combined with operating leverage, and a substantially reduced share count. We look forward to seeing you in New York at our Analyst Day on November 19, where we will be providing additional details about our long-term growth strategy.

Thank you, and I will now turn the call back over to Mauricio.

Mauricio Lopez-Hodoyan

Vice President, Investor Relations, QUALCOMM, Inc.

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

QUESTION AND ANSWER SECTION

Operator: Thank you. [Operator Instructions] Our first question comes from Chris Caso with Raymond James. Please proceed with your question.

Chris Caso

Analyst, Raymond James & Associates, Inc.

Q

Yes, thank you, good evening. I guess first question would be on the pace of the 5G ramp as you proceed through the fiscal year. You've given some indications on where you expect overall revenue to be. If you could, talk about that in percentage terms of 5G as a percentage of the mix as it goes through the year, even on revenue terms or MSM terms, whatever you could do to give us some sense of how 5G penetrates as the year goes on.

Cristiano R. Amon

President, QUALCOMM, Inc.

A

Hi. Thanks, Chris. This is Cristiano. Consistent I think with what we just said in the earnings call, I think timing, our fiscal Q2 is that we started to see the inflection point as the devices have started to show up in volumes. And overall, I think mix. We expect that to be ramping in the high – in the premium tier in some of the markets that we're seeing launching 5G. Within that, we provided a metric before that we will see probably 1.5 times the ASP as we look at higher content for both the modem as well as the RF front-end.

Chris Caso

Analyst, Raymond James & Associates, Inc.

Q

Okay, thank you. And as a follow-on to that, maybe you could give us some commentary on how that impacts QCT margins as the year progresses. Obviously, you've got that additional content. The margins are depressed as you're making that transition now. What should we expect as the year goes on, on those QCT margins?

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Hi, Chris. This is Akash. The way you should think about the year playing out for QCT with 5G is really there are going to be two inflection points in the chip business. The first inflection point will be flagship launches in early 2020 by both our global and Chinese OEMs, and you should think of it as RMB 3,000 and above handsets will start adopting 5G. The second inflection point will be in the fall timeframe when another set of flagship devices will adopt 5G. So that should be the shape of 5G adoption through the year.

And how this translates into margin is we gave guidance for our second quarter margin. We are expecting from first to second quarter revenue will go up mid-teens, and operating margins will also be in the mid-teens range in the second quarter. We are not guiding longer-term margins at this point, but we'll talk about it at Analyst Day as well.

Operator: Thank you. Our next question will come from James Faucette with Morgan Stanley. Please proceed with your question.

James E. Faucette

Analyst, Morgan Stanley & Co. LLC

Q

Thank you very much. I wanted to ask a follow-up to that. And maybe, Cristiano, you can talk about where you see QUALCOMM where it's particularly strong positioned in terms of like if we look at flagships down through the different tiers of phones, where you've talked a lot about design wins. But where should we expect you to show up most strongly versus where maybe there may be a bit more variety of suppliers?

Cristiano R. Amon

President, QUALCOMM, Inc.

A

Thanks for the question, James. We updated our design pipeline. The design pipeline is about now 230-plus 5G devices across now multiple tiers. It's up substantially since six months ago.

And I'll answer your question two ways. First, I think it's been very clear that our early investment in millimeter wave has provided QUALCOMM with a significant technology advantage in having the technology to maturity, and we're optimistic about millimeter wave going from the United States initial launches into Korea, in Japan, in other markets, including being licensed already in Europe. Telecom Italia was the first one, happening throughout 2020. That's a very good thing for QUALCOMM.

Having said that, I would probably say that every single launch of a flagship OEM today with the exception of Huawei, they use their own silicon, every other launch of every other OEM has been a QUALCOMM Snapdragon platform, and that positioned us very well to partner with OEMs for 5G ramp, including Samsung, which we have not only launched with the traditional markets, but also I point you to the A Series, which is the second tier below the flagship, that have been launching with QUALCOMM globally in addition to the Galaxy Fold. So those are positive things as we think 5G transition for QUALCOMM.

James E. Faucette

Analyst, Morgan Stanley & Co. LLC

Q

Great. And then a follow-up question maybe for Steve and Don, you mentioned that you're in ongoing negotiations with Huawei but haven't reached any agreement as of yet. How do you think – or what needs to happen to move an agreement across the line? And are we going to – I guess I'm wondering how China-US trade relations and potential resolution or at least a trade agreement may factor in to those negotiations and conversations with Huawei.

Steven M. Mollenkopf

Chief Executive Officer & Director, QUALCOMM, Inc.

A

James, it's Steve. So we continue to talk to Huawei. I would characterize the discussions as ongoing, but really nothing to report on. Obviously, we don't have the numbers – we don't have any revenue in the numbers right now for licensing revenue.

In terms of how the trade discussions between the two countries impact the probability or chance that we can get a resolution, I think it's too early to tell. I think it's pretty opaque at the moment. It's good that we're talking but there's really nothing to report on right now. And you know that the product business for us is actually quite small. We tend to be a little bit more insulated I think from the trade talks compared to maybe other companies, but too early to tell in terms of what it will mean to the licensing discussions.

Operator: Thank you. Our next question comes from Samik Chatterjee with JPMorgan. Please proceed with your question.

Samik Chatterjee

Analyst, JPMorgan Securities LLC

Q

Hi, thanks for taking the question. I just wanted to start off firstly by focusing a bit on the RF front-end opportunity. You mentioned that most of the design wins you're seeing, both the modem and the RF front-end go together.

So I just wanted to get your thoughts about how you're thinking about market share in RF front-end and the early generation 5G phones [ph] were to do (00:23:44) some of the incumbents in the space? And then how should we think about sustaining that market share in the second-generation, third-generation 5G phones? And then I have a follow-up. Thank you.

Cristiano R. Amon

President, QUALCOMM, Inc.

A

Thanks for the question. So we look at 5G as the key entry point for the RF front-end business. And we're very satisfied with the ability as we started to look into the designs with the 5G content, which are specifically sub-6 spectrum as well as millimeter wave spectrum, we actually have seen a very high percentage. Virtually all of the 230-plus designs now for 5G content have QUALCOMM modem-to-antenna design. We have seen in those devices some of our existing incumbents continue to support and provide content for 4G, but the 5G position of QUALCOMM is very strong.

What we're very happy, especially at this time as we head into the Q2 ramp of 5G, we see now as we go into second-generation designs. For the second-generation devices as well and lower tiers, we have maintained that pattern. So we're now going into design number two and design number three that maintain the 5G content on the RF front-end, and we're very happy with that development.

Samik Chatterjee

Analyst, JPMorgan Securities LLC

Q

Perfect. If I can just follow up, you've talked extensively about the opportunity on 5G handsets. If you can, help me quantify the revenue opportunity outside of handsets, be it like small cells or IoT that is also tied to a 5G opportunity, but outside of handsets. I'm just looking for some color there.

Cristiano R. Amon

President, QUALCOMM, Inc.

A

So let me give you the first part of the answer, and then I'll ask Akash to add. Devices and smartphones are definitely going to be the vast majority of the earnings, especially as we head in 2020. That's how 5G is going to ramp. However, we are happy about the 5G traction in all of our adjacents, from upgrade of telematics in automotive to 5G. We've seen a lot of industrial IoT applications. And even our small cell business is getting traction, including with traditional infrastructure vendors. So we expect that to be a growth story as we head into

2021 and 2022. In 2020, the one that I want to single out is CPE for mobile broadband, and that's part of a lot of the carriers' deployment of 5G and fixed wireless.

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

Ross Seymore

Analyst, Deutsche Bank Securities, Inc.

Q

Hi, guys. Congrats on the strong results and 5G color. I just wanted to see about the seasonality on the QCT side – or QTL side, excuse me. Steve, you mentioned that you were happy it was returning to a seasonal pattern. You talked a little bit I think, Akash, about what it was going to do in the fiscal second quarter. Can you just talk about the seasonality of that? Is the range that you've given in the past of the \$1.1 billion to \$1.2 billion, is that the new range in the weak quarters, and the stronger quarters would be closer to the \$1.4 million you just did, or how should we think about that as the year progresses?

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Hi, Ross. This is Akash. I think that's a fair way of thinking about it. We just reported actuals for the September quarter at \$1.16 billion, and we're guiding the December quarter at the midpoint of \$1.4 billion and the March quarter at \$1.1 billion. So that gives you a sense of the seasonality in the business, and those are fair numbers to use to project the business going forward.

Ross Seymore

Analyst, Deutsche Bank Securities, Inc.

Q

Thanks for that. And as my follow-up, perhaps one for Cristiano on the revenue per MSM side of things. I just would hope to get a little more color on why is that going down sequentially in your fiscal first quarter guide. And perhaps more importantly, it seems like it's up very nicely, almost 12% year over year in fiscal 2019. And still, despite that sequential decline in your fiscal first quarter, still up the better part of 10% there. I was wondering what's driving the sequential decline, the year-over-year increases? And then if that's all pre-5G, how should we think about the lift off of this level?

Cristiano R. Amon

President, QUALCOMM, Inc.

A

Ross, so our ASP per MSM has a very high sensitivity to high and premium tiers. And if you look at what happened in the quarter and the guide for the next one, I think consistent with what we said in the last earnings call that we're going to see the dynamic throughout the calendar year. We have some weaker market, weaker demand in China, and that combined with Huawei gaining share in domestic China as well. That's one dynamic.

The other dynamic is OEMs canceled some of the 4G flagships and moved their portfolio towards 5G getting ahead of the launch. So that creates basically a change in the composition of the MSM because of the high and premium tier units as we go to that transition. However, the inflection point for Q2 is where you started to see the effect of when we talked about the 1.5 times. If anything, the guide that we provide on Q2, it contemplates the current market environment, the typical seasonality of our business, no significant changes in OEM share, and does not include yet the ramp of the Apple business, you'll see that change just with the 1.5 times, which in average has higher ASP content on the modem plus the RF front-end.

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

Matthew D. Ramsay

Analyst, Cowen & Co. LLC

Q

Thank you very much, good afternoon. Congratulations, Akash. I guess, Steve, my first question is around the 5G unit numbers that you gave for calendar 2020. I guess the midpoint that you guys have laid out is 200 million units. Maybe you could give a little color on what you're assuming the geographic mix of those units is, in particular, what percentage might be China versus rest of world. And then I have a follow-up. Thanks.

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Hi, Matt. This is Akash. So the way we thought about the 5G forecast for 2020 is a couple ways. We looked at the tops-down of how transitions have typically happened in previous generations. And the two things that are different with 5G versus transition from 3G to 4G is China is adopting 5G at the same time as the other geographies, versus in 4G they were a couple years late. And then also within 5G, we're seeing multiple tiers of products being launched simultaneously, which we did not have for 4G. So that's why we think the intensity of the 5G rollout is actually faster. And you have China as a big portion of it happening early in the life cycle.

Of course, in addition to that, we're obviously talking to all of our OEM customers, and we have a very good sense of how many devices they are planning to launch over the next several months with 5G and at what price points, and that also allows us to inform our tops-down forecast.

Matthew D. Ramsay

Analyst, Cowen & Co. LLC

Q

Got it, that's really helpful. As my follow-up, a quick one for Alex on the licensing agreements. And obviously, we're all encouraged to see the progress you've made on 5G. There's also been this dynamic of SEP-only licenses becoming a bigger piece of the mix and some implications for the implied royalty rate. I know that moves around a bit. But I think you guys talked about in an answer to an earlier question about how to model the QTL business going forward. I wonder if we're now at relative steady state for implied royalty rates as we go forward. Any comments there would be helpful. Thank you.

Alexander H. Rogers

Executive Vice President & President, Qualcomm Technology Licensing, QUALCOMM, Inc.

A

So I think that may be a fair way to look at it. But I think the way you should look at it for guidance is we're guiding revenue. And so as we noted, we're going to see seasonality and we're going to see the remaining quarters at the range that we identified. And of course, that's without the Huawei numbers. But we have made really good progress with signing up 5G agreements. We have over 75 agreements now in place since we started our 5G licensing program. So I think that reflects a very strong IP position. But I think again, if you look to our guidance on revenue, that's probably the easiest way to think about it.

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

And, Matt, this is Akash. Just a quick reminder that our revenue guidance numbers does not include Huawei. So as that gets resolved, that would be incremental to the range.

Operator: Thank you. Our next question comes from the line of Stacy Rasgon with Bernstein Research. Please proceed with your question.

Stacy Aaron Rasgon

Analyst, Bernstein Research

Q

Hi, guys. Thanks for taking my questions. Around the March quarter QCT guide, so units in March quarter for MSM units are typically down seasonally. You're obviously guiding revenues up mid-teens on the 5G ramp. So is that all or even maybe more than 100% due to increases in revenue per MSM? Is it that the 5G ramp itself in content is enough to offset the normal seasonal decline in unit shipments, or are you seeing an ending of the flush that we've been having and maybe a reversal with some fill-in as some of the new products get in? How do we think about that unit versus ASP trend embedded in that March quarter revenue guide for chipsets?

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Hi, Stacy. So there are a couple factors. This is Akash, by the way. There are a couple factors that affect our second quarter numbers for units and ASP. You're correct about the seasonally lower quarter, but that is also offset by a stronger mix because we launched our new premium tier chip and new high-tier chip during that quarter as well. So there is a mix implication before we get to the 5G benefit. And then the third factor is what we have disclosed previously, which is with 5G devices. On a like-for-like device basis, we expect 1.5x monetization as a combination of the chipset and the RF front-end revenue on top of it. So those are the three factors that impact the volume and price – revenue per MSM mix in the quarter.

Stacy Aaron Rasgon

Analyst, Bernstein Research

Q

Thanks. And maybe just to follow-up on that, so you mentioned 1.5 times content increase. But at the same time, you also mentioned multiple tiers launching simultaneously, which is something that we didn't really see in 4G. So how do we think about that – I guess that differential of those drivers on content increase overall versus the general mix of tiers that are launching? And do you think that is enough to keep revenue per MSM rising through 2020, through fiscal 2020 as 5G becomes more mainstream?

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

So the way we think about the 1.5x is really for a given tier device, so comparing a premium tier to a premium tier device, when you go from 4G to 5G, the revenue opportunity increases by 1.5x. And then this would also apply to the tiers as it penetrates further down. And so you should think of that as a mechanism of modeling our business as the mix improves from 4G to 5G.

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

Mitch Steves

Analyst, RBC Capital Markets LLC

Q

Hey, guys. Thanks for taking my question. I actually just want to focus a little bit back just on the pricing you guys are getting. So I realize it's going to be down a little bit in the December quarter, so two really clarifications. If Huawei does come back, would you get an implied ASP that goes up or down? And then secondly, how do we

think about that ramping over the next 12 months? I think most models have it going up a few dollars but is that right to do, or do you think it needs to be changed after seeing the mix come through?

Alexander H. Rogers

Executive Vice President & President, Qualcomm Technology Licensing, QUALCOMM, Inc.

So this is Alex. You're asking about the on the licensing side?

A

Mitch Steves

Analyst, RBC Capital Markets LLC

Yes.

Q

Alexander H. Rogers

Executive Vice President & President, Qualcomm Technology Licensing, QUALCOMM, Inc.

Okay. Look, again, the way we think about it is that – Akash maybe will weigh in here. The way we think about it is that Huawei is incremental. And I'm not sure what more to say to that other than what we've already provided by way of guide.

A

Mitch Steves

Analyst, RBC Capital Markets LLC

Okay. I guess maybe we return to the Huawei piece then. If that comes back, are you going to be increasing ASPs, or do you think that the ASP is going to be flattish or similar?

Q

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

This is Akash, Mitch. The way you should think about Huawei is we don't have Huawei units or revenue contemplated in the QTL guide at this point. So when Huawei gets included into the guide, it would be based on what their device ASP is and our licensing deal with them. So it will just fall out of the agreement that we end up having with Huawei.

A

Operator: Thank you. Our next question comes from the line of Rod Hall with Goldman Sachs. Please proceed with your question.

Rod Hall

Analyst, Goldman Sachs

Hi, guys. Thanks for the question. I wanted to just go back to the progress of 5G and particularly millimeter wave, Akash. And I wonder, Cristiano, if you could talk a little bit about of the 230 wins, or maybe, Steve, you want to address this. How many of those have millimeter wave attached to them or at least some version of them?

Q

And then as we get to the flagship launches at the beginning of next year, proportionally, how does it look? And then as we get to the end of next year, how does that look? Do we get to most phones by the end of next year having millimeter wave attached or some smaller proportion? Could you just walk us through that? And then I have a follow-up.

Cristiano R. Amon

President, QUALCOMM, Inc.

A

Hi, Rod, thanks for the question. So the way to think about it, it's pretty much at this point by market. For example, the United States market, all of the devices they have launched, there is a requirement for millimeter wave that the spectrum utilize by all of the – three of the four carriers right now. And therefore, we have seen the initial launches of millimeter wave.

Going into 2020, the current planning assumption is you're going to start to see millimeter wave also coming in the Korea market. It's going to come into the Japan market. And the later part of 2020 and beginning 2021, you start to see that in Europe, and that's how it's going to change the mix.

Right now, you should look at some of the China launches that we're going to see in 2020, they are going to be sub-6, and Europe in 2020 the first half will be sub-6. Japan, Korea, and the United States are going to have millimeter wave. That's how to think about it.

Rod Hall

Analyst, Goldman Sachs

Q

And is it your – Cristiano, just to follow that up, is it your assumption or our assumption should be that every market that has millimeter wave deployed in the wireless network, you would expect to see millimeter wave attached to most phones in that market. Is that correct?

Cristiano R. Amon

President, QUALCOMM, Inc.

A

That's correct. And especially because you have – in the wireless industry today, you have probably a single SKU launch by an operator within their entire geography, even if you're going to have some markets with millimeter wave, some markets with sub-6. That has been the requirement of millimeter wave capability in many of those 5G devices.

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

C. J. Muse

Analyst, Evercore Group LLC

Q

Good afternoon, thank you for taking the question. I guess to follow up on the last question, as you think about the 200 million 5G unit market plus or minus in 2020, what percentage do you believe will have millimeter wave? And then as part of that question, can you talk through the attach rate that you're seeing on RF front-end for you guys at sub-6 versus millimeter wave? I would assume a much higher rate there on millimeter.

Cristiano R. Amon

President, QUALCOMM, Inc.

A

Hi. Let me answer in reverse order. So on the Snapdragon platform today, the attach rate on millimeter wave and sub-6 is the same. I think we have modem-to-antenna designs, including RF front-end, in all of the Snapdragons. There are very few exceptions. And sometimes, the exception is just one or another band, and it's very small quantities. I'll say the absolute majority of the devices we've been winning RF front-end across millimeter wave and sub-6. It's not unique to millimeter wave. However, millimeter wave drives a little more content because, unlike sub-6, you need multiple antenna modules and multiple RF chains of millimeter wave. So the content is disproportionately higher on the millimeter wave side.

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

C. J., on the mix of sub-6 versus millimeter-wave within the 200 million, at this point, we're not disclosing a mix really. But the way to best think about it is what, as Cristiano mentioned earlier, is by market. And so there are certain markets, US and then Japan and Korea next year, where millimeter wave would be required from an operator perspective, and so those markets would have millimeter wave. So the best way to think about it is a mix of markets.

C. J. Muse

Analyst, Evercore Group LLC

Q

Thank you very much.

Operator: Thank you. Our next question comes from Timothy Arcuri with UBS. Please proceed with your question.

Timothy Arcuri

Analyst, UBS Securities LLC

Q

Hi, thanks. I wanted to just clarify the answer that you had to a prior question on the March guidance for QCT. So are you basically implying that units are going to maybe be seasonal plus just a smidge, and most of the increase in QCT revenue in March is ASP? Is that right?

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Yes, I think the units will have the regular cadence of seasonality, maybe with some increase that's driven by 5G launches. But primarily, it will be a mix of the tier mix within the chips we have, and then also the 4G with this 5G mix.

Timothy Arcuri

Analyst, UBS Securities LLC

Q

Okay. And then I guess just following on to that then, if you're not getting much of the unit benefit yet in March, obviously you're going to eventually have to see that unit benefit. So how sustainable is the growth in QCT revenue into fiscal Q3 when you would I would think see much more the unit growth in that quarter? Thanks.

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

So from a market perspective, the way we are planning our business going forward is we're assuming the current market dynamics hold. And within that, our benefit is as the transition happens to 5G. And then – so that should be the basis for the assumptions for next year.

Now, as we have both initial set of 5G launches happen and then additional 5G launches happen across flagships models later in the year, we'll see our operating margin ramp in addition to revenue per MSM, as we see the benefit of 5G going to our portfolio.

Operator: Thank you. Our next question comes from Brett Simpson with Arete Research. Please proceed with your question.

Brett Simpson

Analyst, Arete Research Services LLP

Q

Thanks very much. Cristiano, I just have a quick couple of questions. Maybe first off on the on the 5G outlook for calendar 2020, you're talking about 200 million units at the midpoint. And I know other chip makers have reported in the last week or so. They're talking more like 300 million units globally for 5G next year. I just wanted to delve a little bit into your assumptions. Are you expecting the large flagship launches next year to be only 5G, or do you expect global flagships to also be 4G in that outlook? And anything you can tell us about what your assumptions are for China within that 5G outlook you've given would be very helpful. Thanks.

Cristiano R. Amon

President, QUALCOMM, Inc.

A

Excellent question. So let me break that down. As we said earlier in this earnings call, I think Akash also mentioned this. We are assuming existing market dynamics, and I think that's why you probably see somewhat of a more conservative estimate.

If you believe that there's pent-up demand for 5G devices, and it's kind of consistent with what are the transitions, you could have a change in replacement rates, and that's going to drive a bigger market. Bigger market is even better news for QUALCOMM. So we're just assuming existing market dynamics in our projections.

Now going back to the outlook on 2020, we talk a lot about the dynamics on Q2. But maybe to add to the prior question, you should expect as we get into the second half of 2020, then we're going to see the addition of Apple volumes. And so you should think about really a 5G ramp for QUALCOMM in 2020.

Your last question was about China. The order of magnitude of deployment in China is significant. And we said during the script that now the projection is 1 million [ph] NOB (00:46:15) or base stations by 2020. That's going to drive a very aggressive migration. So China could also be upside if the market dynamics don't hold and you have higher replacement rates. And also if you assume that the current Huawei share gains in China, which we're assuming as our going assumption, if that changes and get to some more normal levels, that's upside as well.

Brett Simpson

Analyst, Arete Research Services LLP

Q

And maybe if I can just ask a quick follow-up here, just to clarify on the RF front-end side. When you talk about modem-to-antenna and 5G, are you also including 4G modules, 4G RF modules, like low band, mid, high band, et cetera, or are we really talking about ultra-high band RF?

And also just on millimeter wave because I know there's a lot of investors that are questioning the viability of millimeter wave at the moment, what are you doing in your second-generation millimeter wave platforms to improve things like battery life, or how do we think performance is going to pick up here? Thank you.

Cristiano R. Amon

President, QUALCOMM, Inc.

A

Okay, maybe two questions. Let me try to go quickly through them. So the first one is we have been very focused in 5G as the entry point. So we have been winning RF front-end in the 5G mid-bands, in the 3.5 bands, in some cases in some of the refarmed bands as well and the lower frequencies as well as millimeter wave. It's both. We continue to see the incumbents providing the 4G, but I point you to what we're going to see in 2020, especially with dynamic spectrum sharing. It's going to be the refarming of existing 4G bands, and we expect that to be an extension of our existing 5G RF front-end solution. So that was the first question.

Can you remind me of the second question, on millimeter-wave performance, yes, so as we launch a new technology, there are a lot of features that come across the device and the infrastructure, and they don't come all day one. So some of the initial – I think battery life or even thermal that was experienced by millimeter wave, in the first generation chipsets, they've already been addressed with software updates, and we've seen a full day of battery life on existing first-generation chipsets. As we go to the second generation at Snapdragon, we see with a cross-process node and evolution of our modern technology also significant improvements in battery life area for the millimeter wave footprint as well as thermals.

Operator: Thank you. Our next question comes from Srin Pajjuri with SMBC. Please proceed with your question.

Srin Pajjuri

Analyst, SMBC Nikko Securities America, Inc.

Q

Thank you, a couple of follow-ups actually. I guess first on the 5G ASP boost, there has been a lot of talk about the chipset ASP boost, but I'm just curious. Do you see any benefit on the QTL side? I know I think most of the 4G premium phones are probably already hitting your cap. But as we transition to 5G, what sort of benefit, if any, do you see on the QTL side?

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Hi, Srin, this is Akash. Again, going back to history, what has happened from 3G to 4G and previous generations, we have seen typically an increase in replacement rates and an increase in ASPs when we go to a new generation. So that is certainly something that is possible and maybe even likely with 5G. For our business planning purposes, as we said earlier, we are planning based on the market being consistent, and then within that having a transition to 5G. So that could be an upside opportunity for us that's not included.

And then you could also see users with low and mid-tier devices upgrade and buy higher tier devices because of the increased capability that 5G brings. And that could help QTL ASPs as well. But again, that is not modeled into our business at this point.

Steven M. Mollenkopf

Chief Executive Officer & Director, QUALCOMM, Inc.

A

And one quick point. With our early R&D and IP leadership, it's just a really good context for driving new agreements.

Srin Pajjuri

Analyst, SMBC Nikko Securities America, Inc.

Q

Got it. And then, Akash, on the margin front, at QCT, I know you said the margins will improve over the next few quarters. But my question is on a like-for-like basis, does 5G give you better margins, meaning if I go back to the second half of 2017, I think you hit your 20% – 21% EBIT margin for QCT. At that time, your revenue run rate was close to \$1 billion. So when we get back to that kind of revenue run rate, do you expect the margins to be higher than the 20% – 21%?

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

So, Srini, at this point, we're not disclosing separate margins for our 4G versus our 5G business or a specific target for long-term margins, but this is something we'll address at the Analyst Day. So if you can stay tuned for a couple weeks and we'll plan to address it there.

Operator: Thank you. Our next question comes from Vijay Rakesh with Mizuho. Please proceed with your question.

Vijay Raghavan Rakesh
Analyst, Mizuho Securities USA LLC

Q

Yes, hi, I was just wondering. Just looking at the RF front-end wins that you're seeing into next year, if you could give us exiting calendar 2020 what you see would be the mix of RFFE within your QCT, or if you could give us some dollar number on what you think your RFFE will be. Thanks.

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Thanks for the question. We're not really breaking that down, but we did provide that metric of 1.5 times. That includes both the ASP increase on a 5G modem as well as RF front-end content and average per tier.

Vijay Raghavan Rakesh

Analyst, Mizuho Securities USA LLC

Q

Got it. And on the QCT side, I know you guys talked about a nice pickup with the mix going to 5G. What kind of ASP assumptions are you assuming on that as you go through 2020, especially as you might have some other mature suppliers entering the market? Thanks.

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Look, the way to think about it is we always have competition. And there's nothing that we see in the market on the competitive side that is different than we were expected, and that is factored in our projections.

Operator: Thank you. Our next question comes from the line of Patrick Walsh with Oppenheimer. Please proceed with your question. Mr. Walsh, your line is live. You may proceed with your question.

Patrick Walsh

Analyst, Oppenheimer & Co., Inc

Q

Sorry about that, I had it on mute. I just have two quick questions. So the first question on the RF side, when you hear the traditional RF players, Qorvo, Skyworks, talk, they talk about a change in RF content from either \$18 to \$20 going to \$25. And so my question for you, it seems like initially you guys are focused more on that incremental \$5 to \$7. Is that a fair assessment, and is the majority of that \$5 to \$7 made up by millimeter wave?

And then, if we think about that core \$18 to \$20 that's been historically there, are you really aiming for these kind of refarmed bands? And then I guess within the bands, can you – do you have – I know you have BAW capacity via TDK. I wouldn't imagine it's too much just given that Avago and Qorvo have probably I think 80% of the capacity out there. So would you be targeting more like low-band pads?

Akash Palkhiwala

Chief Financial Officer & Senior Vice President, QUALCOMM, Inc.

A

Patrick, in terms of the ASP question you asked, I think the examples you were quoting were for premium tier device. Really as you look at different regions and you look at different frequency bands in a given region and tier of device, those numbers could be vastly different. So I think it's very difficult to generalize in terms of ASP advantages.

The way you should think about that is there's a certain market for RF front-end that exists. With 5G coming in, that is going to expand, and it's going to create an opportunity for us to significantly improve our share in the market. And then on top of that, as Cristiano mentioned, as DSS happens, dynamic spectrum sharing and bands get refarmed to 5G, we'll be able to participate and further expand our revenue opportunity. That's kind of the framework you should use.

Operator: Thank you. That concludes today's question-and-answer session. Mr. Mollenkopf, do you have anything further to add before adjourning the call?

Steven M. Mollenkopf

Chief Executive Officer & Director, QUALCOMM, Inc.

Yes, thank you. I just want to thank the team, the QUALCOMM team for their hard work and the great execution through 2019. 2020 is the year of 5G. I want to thank everybody for their hard work. We're on the cusp of it and I'm very excited about it. But thanks, everybody, see you next time.

Operator: Ladies and gentlemen, this concludes today's conference call. You may now disconnect.

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